



MURPHY & READ SPRING MANUFACTURING CO.

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Murphy & Read

Quality Springs Since 1917



For nearly 100 years, Murphy & Read Spring mfg inc. has been designing and manufacturing quality springs. Founded on Cherry Street in Philadelphia Pennsylvania, Murphy and Read has been manufacturing goods for virtually every industry. We maintain our historical focus on quality and customer service combined with state of the art equipment and robotics. Give us a call and you will not be disappointed.



Products and Services

- Compression Springs
- Extension Springs
- Torsion Springs
- Double Torsion Springs
- Clutch Springs
- Valve Springs
- Wire Forms
- Garter Springs
- Stampings
- Shaped wire
- Machining
- Turning
- Rings
- float stops
- Prototype through long production

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- Engineering
- Food Services
- Machine OEMs
- Machine Shops
- Fortune 500 companies
- Agriculture
- Optics
- Fiber optics
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- Automotive
- Computers and Telecommunications
- Primary and Secondary Education
- Universities
- Materials Testing
- Medical and Biotech
- HVAC
- Transportation
- Energy
- Injection mold



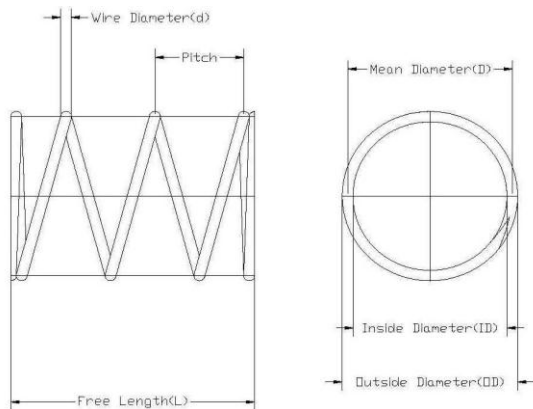
Table of Contents



Compression Spring Information.....	2
Continuous Length Compression Springs.....	5
Stock Compression Springs.....	6
Extension Spring Information.....	58
Continuous Length Extension Springs.....	61
Stock Extension Springs	62
Torsion Spring Information.....	81
Stock Torsion Springs.....	83
Tables.....	88

COMPRESSION SPRINGS

Compression springs apply a force by compressing or pushing on them. Our stock compression springs are all cylindrical and made out of round stainless steel or music wire. Compression springs can also be made in many shapes including barrel, conical, hourglass or oval. The wire can be also be square, rectangular or virtually any shape, size or material.



Spring Terms

OD = Outside Diameter

D = Mean Diameter

d = wire diameter

Na= number of active coils

Nt = number of total coils

R= Spring Rate

P = applied force

S = wire stress

c = spring index

ΔL = deflection

FEG = ends flat and ground

FE= ends flat not ground

PEG = ends plane and ground

PE = ends plane not ground

UTS= Ultimate Tensile Strength

Calculations

$$D = OD - d$$

$$R = \frac{Gd^4}{8d^3N_A} \quad \text{and} \quad P = R * \Delta L$$

$$S = \left(\frac{8DP}{\pi d^3} \right) * \left(\frac{4c-1}{4c-4} \right) + \frac{4P}{\pi d^2}$$

$$\% \text{ tensile} = 100 \times \frac{S}{UTS}$$

*See tables for UTS

	Spring ends			
	Flat ground (FEG)	Flat (FE)	Plane (PE)	Plane Ground (PEG)
Active Coils	Nt-2	Nt-2	Nt	Nt -1
Solid Height	d x Nt	d(Nt+1)	d(Nt+1)	d x Nt

Common Spring Materials	Max. recommended % tensile
Music Wire	45%
Chrome Silicon	45%
Chrome Vanadium	45%
302 Stainless Steel	35%
316 Stainless Steel	35%
17-7 Stainless Steel	45%

*for maximum performance and cycles stresses should not exceed these values

Design tips

- If a spring force or spring rate is specified coil count must be reference only
- Only two of the following may be specified; spring rate, load at L1, load at L2 and Free Length
- Spring index(c) should fall between 4 and 25
- P should only be specified between 15% and 85% of total travel
- Alert manufacturer to any close fitting parts or assemblies

For assistance designing a custom spring don't hesitate to contact our experienced engineering department. Or try your own with our custom spring calculator and 3d CAD models at

www.mrspring.com

COMPRESSION SPRINGS

Tolerances

The following tables give tolerances that can be used as a reference. Actual manufacturing tolerances will depend on the spring specifics. Usually Murphy and Read can manufacture to tolerances 25% smaller than the Spring Manufacturers Institute(SMI) Guidelines.

Outside Diameter Tolerances

Wire Diameter (in)	Spring Index, D/d						
	4	6	8	10	12	14	16
0.015	0.002	0.002	0.003	0.004	0.005	0.006	0.007
0.023	0.002	0.003	0.004	0.006	0.007	0.008	0.01
0.035	0.002	0.004	0.006	0.007	0.009	0.011	0.013
0.051	0.003	0.005	0.007	0.01	0.012	0.015	0.017
0.076	0.004	0.007	0.01	0.013	0.016	0.019	0.022
0.114	0.006	0.009	0.013	0.018	0.021	0.025	0.029
0.171	0.008	0.012	0.017	0.023	0.028	0.033	0.038
0.25	0.011	0.015	0.021	0.028	0.035	0.042	0.049
0.375	0.016	0.02	0.026	0.037	0.046	0.054	0.064
0.5	0.021	0.03	0.04	0.062	0.08	0.1	0.125

Free Length Tolerances

Number of Coils per in.	Spring Index, D/d						
	4	6	8	10	12	14	16
0.5	0.01	0.011	0.012	0.013	0.015	0.016	0.016
1	0.011	0.013	0.015	0.016	0.017	0.018	0.019
2	0.013	0.015	0.017	0.019	0.02	0.022	0.023
4	0.016	0.018	0.021	0.023	0.024	0.026	0.027
8	0.019	0.022	0.024	0.026	0.028	0.03	0.032
12	0.021	0.024	0.027	0.03	0.032	0.034	0.036
16	0.022	0.026	0.029	0.032	0.034	0.036	0.038
20	0.023	0.027	0.031	0.034	0.036	0.038	0.04

- End Squareness of Flat Ground Springs ± 3 degrees
- Spring Rate Tolerance $\pm 10\%$
- Load at Length Tolerance $\pm 10\%$

Standard Compression Springs

Selection

Springs are organized in order of increasing diameter and wire size. Note that in each category the spring rate decreases as the free length increases. After selecting the proper outside diameter of the spring needed, choose a range for either load or wire diameter (not both) and then select a range for free length. The broader the range entered the more options will be shown.

Units of Measure

All units are in Inches, Pounds for Loads and Pounds per Inch for spring rate.

Loads

The Length at L1 is the deflected length at 75% of full travel for music wire springs. Load at L1 is force generated at Length L1. To determine the load at any point Lx, multiply the deflection to Lx by the Spring Rate.

$$\text{Load at Lx} = R(\text{FL} - \text{Lx})$$

Stress

Stress at L1 is given as a percent of tensile when the spring is at 75% of total deflection. The spring designs vary throughout the catalogue and it is important to use this value to determine the suitability of a spring for your specific application. In general, lower Stress yields greater life expectancy. Music Wire springs should have a value of 45% or less for average use. Stainless Steel springs should have a value of 35% or less. The following formula can be used to determine stress at any load length. $\text{SLX} = \text{SL1}/75 \times (\text{FL} - \text{LX})/(\text{FL} - \text{SH})$

Inside Diameter

To determine the Inside Diameter of any spring subtract two wire sizes from the Outside Diameter. Please allow adequate clearance if fitting over a shaft as there is always some variation from manufacturing tolerance and natural burrs.

Ends

.006-.012 Wire Dia.: Flat Ends Not Ground*

.014-.225 Wire Dia.: Flat Ends Ground +-.3 Degrees

*Springs with an outside diameter/wire diameter ratio greater than 17-1 have unground ends.

Material

Music Wire: ASTM-A228

250 degree maximum operating temperature.

Stainless Steel Type 302: ASTM-A313

500 degree maximum operating temperature.

Plain finish. Plating, Shot Peening and Passivation can be supplied on request. Please allow additional time.

Certification

Certificate of conformance to our specification, copies of dimensional and load testing and material certification are available at additional cost.

Tolerances

End Squareness of Ground Springs ± 3 Degrees

Spring Rate $\pm 10\%$ Load at L1 $\pm 10\%$

Outside Diameter	
0.063 to 0.119 $\pm .003$	1.001 to 1.225 $\pm .020$
0.120 to 0.240 $\pm .005$	1.226 to 1.460 $\pm .030$
0.241 to 0.500 $\pm .008$	1.461 to 2.000 $\pm .040$
0.501 to 1.000 $\pm .015$	

Custom Compression Springs

If you are unable to find a suitable spring in our stock selection we have provided a specification sheet on the following page for your convenience. If you need further assistance please call our Engineering Department.

Continuous Length Compression Springs

Wound in a continuous coil, use these springs as is or cut down to size for a custom compression spring. To determine your custom spring rate, divide the 1" spring rate by your new cut down length. All continuous length compression springs are designed to deflect completely to solid height and without taking a permanent set.



1" Spring Rate

Stock Number	Outside Diameter	Wire Diameter	Overall Length	Music Wire	Stainless Steel
MLC018	0.12	0.018	25'	5.7	4.1
MLC020		0.02		8.5	6.7
MLC024		0.024		19.5	15
MLE020	0.18	0.02	25'	3.7	2.7
MLE024		0.024		7.6	5.5
MLE032		0.032		24.5	19.2
MLG032	0.27	0.032	25'	10	7.5
MLG036		0.036		15.7	12.6
MLG042		0.042		31.5	23.4
MLI032	0.36	0.032	25'	6	4.6
MLI042		0.042		17	7.5
MLI059		0.059		63.8	50
MLM042	0.48	0.042	25'	10.6	10.5
MLM059		0.059		36	27
MLM072		0.072		81	61
MLO059	0.72	0.059	25'	15	13
MLO072		0.072		35.5	27
MLO098		0.098		122	95
MLP072	0.975	0.072	25'	17.5	22.8
MLP095		0.095		57	42.5
MLP115		0.115		113	86
MLQ100	1.225	0.1	25'	50.5	35
MLQ115		0.115		81.75	53.25
MLQ148		0.148		221	160



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCA00600	0.057	0.006	0.093	0.23	0.049	0.034	5.26	0.20	4.59
MCA00601	0.057	0.006	0.125	0.23	0.062	0.041	3.69	0.20	3.22
MCA00602	0.057	0.006	0.188	0.23	0.088	0.054	2.32	0.20	2.02
MCA00603	0.057	0.006	0.250	0.23	0.113	0.068	1.70	0.20	1.48
MCA00604	0.057	0.006	0.313	0.23	0.139	0.081	1.34	0.20	1.17
MCA00605	0.057	0.006	0.375	0.23	0.164	0.094	1.11	0.20	0.96
MCA00606	0.057	0.006	0.438	0.23	0.190	0.108	0.94	0.20	0.82
MCA00607	0.057	0.006	0.500	0.23	0.216	0.121	0.82	0.20	0.71
MCA00608	0.057	0.006	0.563	0.23	0.241	0.134	0.72	0.20	0.63
MCA00609	0.057	0.006	0.625	0.23	0.267	0.148	0.65	0.20	0.57
MCA00700	0.057	0.007	0.093	0.37	0.054	0.041	9.48	0.31	8.11
MCA00701	0.057	0.007	0.125	0.37	0.069	0.050	6.56	0.31	5.61
MCA00702	0.057	0.007	0.188	0.37	0.098	0.068	4.09	0.31	3.50
MCA00703	0.057	0.007	0.250	0.37	0.127	0.086	2.98	0.31	2.55
MCA00704	0.057	0.007	0.313	0.37	0.156	0.104	2.34	0.31	2.00
MCA00705	0.057	0.007	0.375	0.37	0.185	0.121	1.93	0.31	1.65
MCA00706	0.057	0.007	0.438	0.37	0.214	0.139	1.64	0.31	1.40
MCA00707	0.057	0.007	0.500	0.37	0.243	0.157	1.42	0.31	1.22
MCA00708	0.057	0.007	0.563	0.37	0.272	0.175	1.26	0.31	1.08
MCA00709	0.057	0.007	0.625	0.37	0.300	0.192	1.13	0.31	0.97
MCA00800	0.057	0.008	0.093	0.55	0.059	0.048	16.52	0.48	14.13
MCA00801	0.057	0.008	0.125	0.55	0.076	0.059	11.29	0.48	9.65
MCA00802	0.057	0.008	0.188	0.55	0.108	0.082	6.95	0.48	5.94
MCA00803	0.057	0.008	0.250	0.55	0.140	0.103	5.04	0.48	4.31
MCA00804	0.057	0.008	0.313	0.55	0.172	0.126	3.94	0.48	3.37
MCA00805	0.057	0.008	0.375	0.55	0.204	0.147	3.25	0.48	2.78
MCA00806	0.057	0.008	0.438	0.55	0.237	0.169	2.75	0.48	2.35
MCA00807	0.057	0.008	0.500	0.55	0.268	0.191	2.39	0.48	2.05
MCA00808	0.057	0.008	0.563	0.55	0.301	0.213	2.11	0.48	1.81
MCA00809	0.057	0.008	0.625	0.55	0.333	0.235	1.90	0.48	1.62
MCA01000	0.057	0.010	0.093	1.00	0.070	0.062	43.04	0.87	37.43
MCA01001	0.057	0.010	0.125	1.00	0.090	0.079	28.54	0.87	24.82
MCA01002	0.057	0.010	0.188	1.00	0.130	0.111	17.16	0.87	14.92
MCA01003	0.057	0.010	0.250	1.00	0.169	0.142	12.32	0.87	10.72
MCA01004	0.057	0.010	0.313	1.00	0.209	0.175	9.58	0.87	8.33
MCA01005	0.057	0.010	0.375	1.00	0.248	0.206	7.86	0.87	6.83
MCA01006	0.057	0.010	0.438	1.00	0.288	0.238	6.65	0.87	5.78
MCA01007	0.057	0.010	0.500	1.00	0.328	0.270	5.77	0.87	5.02
MCA01008	0.057	0.010	0.563	1.00	0.367	0.302	5.09	0.87	4.42
MCA01009	0.057	0.010	0.625	1.00	0.407	0.334	4.56	0.87	3.96
MCB00600	0.088	0.006	0.093	0.13	0.043	0.026	2.55	0.11	2.22
MCB00601	0.088	0.006	0.125	0.13	0.053	0.029	1.79	0.11	1.56
MCB00602	0.088	0.006	0.188	0.13	0.074	0.036	1.13	0.11	0.98
MCB00603	0.088	0.006	0.250	0.13	0.094	0.043	0.83	0.11	0.72
MCB00604	0.088	0.006	0.313	0.13	0.115	0.049	0.65	0.11	0.56
MCB00605	0.088	0.006	0.375	0.13	0.136	0.056	0.54	0.11	0.47
MCB00606	0.088	0.006	0.438	0.13	0.156	0.062	0.46	0.11	0.40



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCB00607	0.088	0.006	0.500	0.13	0.177	0.069	0.40	0.11	0.35
MCB00608	0.088	0.006	0.563	0.13	0.197	0.076	0.35	0.11	0.31
MCB00609	0.088	0.006	0.625	0.13	0.218	0.082	0.32	0.11	0.27
MCB00800	0.088	0.008	0.093	0.36	0.049	0.035	8.39	0.31	7.15
MCB00801	0.088	0.008	0.125	0.36	0.061	0.040	5.73	0.31	4.88
MCB00802	0.088	0.008	0.188	0.36	0.085	0.050	3.53	0.31	3.01
MCB00803	0.088	0.008	0.250	0.36	0.107	0.060	2.56	0.31	2.18
MCB00804	0.088	0.008	0.313	0.36	0.131	0.070	2.00	0.31	1.71
MCB00805	0.088	0.008	0.375	0.36	0.154	0.080	1.65	0.31	1.41
MCB00806	0.088	0.008	0.438	0.36	0.177	0.090	1.40	0.31	1.19
MCB00807	0.088	0.008	0.500	0.36	0.200	0.100	1.22	0.31	1.04
MCB00808	0.088	0.008	0.563	0.36	0.223	0.110	1.07	0.31	0.92
MCB00809	0.088	0.008	0.625	0.36	0.246	0.120	0.96	0.31	0.82
MCB00810	0.088	0.008	0.750	0.36	0.292	0.139	0.80	0.31	0.68
MCB01000	0.088	0.010	0.093	0.68	0.058	0.046	19.25	0.58	16.54
MCB01001	0.088	0.010	0.125	0.68	0.072	0.054	12.77	0.58	10.97
MCB01002	0.088	0.010	0.188	0.68	0.099	0.069	7.68	0.58	6.60
MCB01003	0.088	0.010	0.250	0.68	0.126	0.085	5.51	0.58	4.74
MCB01004	0.088	0.010	0.313	0.68	0.154	0.101	4.29	0.58	3.68
MCB01005	0.088	0.010	0.375	0.68	0.181	0.116	3.52	0.58	3.02
MCB01006	0.088	0.010	0.438	0.68	0.208	0.132	2.97	0.58	2.55
MCB01007	0.088	0.010	0.500	0.68	0.236	0.147	2.58	0.58	2.22
MCB01008	0.088	0.010	0.563	0.68	0.263	0.163	2.28	0.58	1.96
MCB01009	0.088	0.010	0.625	0.68	0.290	0.179	2.04	0.58	1.75
MCB01010	0.088	0.010	0.688	0.68	0.318	0.194	1.84	0.58	1.58
MCB01011	0.088	0.010	0.750	0.68	0.345	0.210	1.68	0.58	1.45
MCB01200	0.088	0.012	0.093	1.14	0.065	0.056	41.01	0.97	35.21
MCB01201	0.088	0.012	0.125	1.14	0.082	0.067	26.26	0.97	22.55
MCB01202	0.088	0.012	0.188	1.14	0.114	0.089	15.38	0.97	13.20
MCB01203	0.088	0.012	0.250	1.14	0.145	0.111	10.92	0.97	9.38
MCB01204	0.088	0.012	0.313	1.14	0.178	0.133	8.44	0.97	7.25
MCB01205	0.088	0.012	0.375	1.14	0.209	0.154	6.89	0.97	5.92
MCB01206	0.088	0.012	0.438	1.14	0.242	0.176	5.81	0.97	4.99
MCB01207	0.088	0.012	0.500	1.14	0.273	0.198	5.04	0.97	4.33
MCB01208	0.088	0.012	0.563	1.14	0.306	0.220	4.44	0.97	3.81
MCB01209	0.088	0.012	0.625	1.14	0.337	0.241	3.97	0.97	3.41
MCB01210	0.088	0.012	0.688	1.14	0.369	0.263	3.58	0.97	3.08
MCB01211	0.088	0.012	0.750	1.14	0.401	0.285	3.27	0.97	2.81
MCC01001	0.12	0.010	0.125	0.41	0.065	0.046	6.90	0.36	6.00
MCC01002	0.12	0.010	0.188	0.41	0.088	0.055	4.32	0.36	3.75
MCC01003	0.12	0.010	0.250	0.41	0.111	0.064	3.15	0.36	2.74
MCC01004	0.12	0.010	0.313	0.41	0.133	0.074	2.47	0.36	2.15
MCC01005	0.12	0.010	0.375	0.41	0.156	0.083	2.04	0.36	1.78
MCC01006	0.12	0.010	0.438	0.41	0.179	0.092	1.73	0.36	1.51
MCC01007	0.12	0.010	0.500	0.41	0.201	0.102	1.51	0.36	1.31
MCC01008	0.12	0.010	0.563	0.41	0.224	0.111	1.34	0.36	1.16
MCC01009	0.12	0.010	0.625	0.41	0.246	0.120	1.20	0.36	1.04



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCC01010	0.12	0.010	0.688	0.41	0.269	0.130	1.09	0.36	0.94
MCC01011	0.12	0.010	0.750	0.41	0.292	0.139	0.99	0.36	0.86
MCC01012	0.12	0.010	0.813	0.41	0.314	0.148	0.91	0.36	0.79
MCC01013	0.12	0.010	0.875	0.41	0.337	0.157	0.85	0.36	0.74
MCC01014	0.12	0.010	0.938	0.41	0.360	0.167	0.79	0.36	0.69
MCC01015	0.12	0.010	1.000	0.41	0.382	0.176	0.74	0.36	0.64
MCC01016	0.12	0.010	1.125	0.41	0.427	0.195	0.66	0.36	0.57
MCC01017	0.12	0.010	1.250	0.41	0.472	0.213	0.59	0.36	0.51
MCC01018	0.12	0.010	1.500	0.41	0.563	0.250	0.49	0.36	0.43
MCC01201	0.12	0.012	0.125	0.70	0.074	0.057	13.71	0.61	11.92
MCC01202	0.12	0.012	0.188	0.70	0.101	0.071	8.03	0.61	6.98
MCC01203	0.12	0.012	0.250	0.70	0.127	0.086	5.70	0.61	4.96
MCC01204	0.12	0.012	0.313	0.70	0.154	0.100	4.40	0.61	3.83
MCC01205	0.12	0.012	0.375	0.70	0.180	0.115	3.60	0.61	3.13
MCC01206	0.12	0.012	0.438	0.70	0.207	0.130	3.03	0.61	2.64
MCC01207	0.12	0.012	0.500	0.70	0.233	0.144	2.63	0.61	2.29
MCC01208	0.12	0.012	0.563	0.70	0.260	0.159	2.31	0.61	2.01
MCC01209	0.12	0.012	0.625	0.70	0.286	0.173	2.07	0.61	1.80
MCC01210	0.12	0.012	0.688	0.70	0.313	0.188	1.87	0.61	1.63
MCC01211	0.12	0.012	0.750	0.70	0.339	0.202	1.71	0.61	1.49
MCC01212	0.12	0.012	0.813	0.70	0.366	0.217	1.57	0.61	1.37
MCC01213	0.12	0.012	0.875	0.70	0.392	0.231	1.45	0.61	1.26
MCC01214	0.12	0.012	0.938	0.70	0.419	0.246	1.35	0.61	1.18
MCC01215	0.12	0.012	1.000	0.70	0.445	0.260	1.27	0.61	1.10
MCC01216	0.12	0.012	1.125	0.70	0.498	0.289	1.12	0.61	0.97
MCC01217	0.12	0.012	1.250	0.70	0.551	0.319	1.00	0.61	0.87
MCC01218	0.12	0.012	1.500	0.70	0.658	0.377	0.83	0.61	0.72
MCC01401	0.12	0.014	0.250	1.31	0.129	0.088	10.80	1.12	9.30
MCC01402	0.12	0.014	0.313	1.31	0.157	0.105	8.41	1.12	7.20
MCC01403	0.12	0.014	0.375	1.31	0.185	0.122	6.91	1.12	5.91
MCC01404	0.12	0.014	0.438	1.31	0.214	0.139	5.90	1.12	5.00
MCC01405	0.12	0.014	0.500	1.31	0.242	0.156	5.08	1.12	4.40
MCC01406	0.12	0.014	0.563	1.31	0.270	0.173	4.48	1.12	3.84
MCC01407	0.12	0.014	0.625	1.31	0.298	0.190	4.02	1.12	3.44
MCC01408	0.12	0.014	0.688	1.31	0.327	0.207	3.63	1.12	3.11
MCC01409	0.12	0.014	0.750	1.31	0.355	0.224	3.32	1.12	2.84
MCC01410	0.12	0.014	0.813	1.31	0.384	0.241	3.05	1.12	2.61
MCC01411	0.12	0.014	0.875	1.31	0.412	0.257	2.83	1.12	2.42
MCC01412	0.12	0.014	0.938	1.31	0.440	0.274	2.63	1.12	2.25
MCC01413	0.12	0.014	1.000	1.31	0.468	0.291	2.47	1.12	2.11
MCC01414	0.12	0.014	1.125	1.31	0.525	0.325	2.19	1.12	1.87
MCC01415	0.12	0.014	1.250	1.31	0.582	0.359	1.96	1.12	1.68
MCC01416	0.12	0.014	1.375	1.31	0.638	0.393	1.78	1.12	1.52
MCC01417	0.12	0.014	1.500	1.31	0.695	0.427	1.63	1.12	1.39
MCC01601	0.12	0.016	0.250	1.92	0.143	0.107	17.88	1.63	15.33
MCC01602	0.12	0.016	0.313	1.92	0.175	0.129	13.87	1.63	11.89
MCC01603	0.12	0.016	0.375	1.92	0.206	0.150	11.36	1.63	9.74
MCC01604	0.12	0.016	0.438	1.92	0.238	0.172	9.60	1.63	8.23



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCC01605	0.12	0.016	0.500	1.92	0.270	0.193	8.33	1.63	7.14
MCC01606	0.12	0.016	0.563	1.92	0.302	0.215	7.34	1.63	6.29
MCC01607	0.12	0.016	0.625	1.92	0.333	0.236	6.57	1.63	5.63
MCC01608	0.12	0.016	0.688	1.92	0.365	0.258	5.94	1.63	5.09
MCC01609	0.12	0.016	0.750	1.92	0.397	0.279	5.43	1.63	4.65
MCC01610	0.12	0.016	0.813	1.92	0.429	0.301	4.99	1.63	4.28
MCC01611	0.12	0.016	0.875	1.92	0.460	0.322	4.62	1.63	3.96
MCC01612	0.12	0.016	0.938	1.92	0.492	0.343	4.30	1.63	3.69
MCC01613	0.12	0.016	1.000	1.92	0.524	0.365	4.03	1.63	3.45
MCC01614	0.12	0.016	1.125	1.92	0.587	0.408	3.57	1.63	3.06
MCC01615	0.12	0.016	1.250	1.92	0.651	0.451	3.20	1.63	2.74
MCC01616	0.12	0.016	1.375	1.92	0.714	0.494	2.90	1.63	2.49
MCC01617	0.12	0.016	1.500	1.92	0.778	0.537	2.66	1.63	2.28
MCC01801	0.12	0.018	0.250	2.68	0.156	0.125	28.66	2.28	24.59
MCC01802	0.12	0.018	0.313	2.68	0.192	0.152	22.14	2.28	19.00
MCC01803	0.12	0.018	0.375	2.68	0.227	0.177	18.09	2.28	15.52
MCC01804	0.12	0.018	0.438	2.68	0.262	0.204	15.26	2.28	13.09
MCC01805	0.12	0.018	0.500	2.68	0.297	0.230	13.22	2.28	11.34
MCC01806	0.12	0.018	0.563	2.68	0.333	0.256	11.64	2.28	9.99
MCC01807	0.12	0.018	0.625	2.68	0.368	0.282	10.41	2.28	8.93
MCC01808	0.12	0.018	0.688	2.68	0.403	0.308	9.41	2.28	8.07
MCC01809	0.12	0.018	0.750	2.68	0.438	0.334	8.59	2.28	7.37
MCC01810	0.12	0.018	0.813	2.68	0.473	0.360	7.89	2.28	6.77
MCC01811	0.12	0.018	0.875	2.68	0.508	0.386	7.31	2.28	6.27
MCC01812	0.12	0.018	0.938	2.68	0.544	0.412	6.80	2.28	5.83
MCC01813	0.12	0.018	1.000	2.68	0.579	0.438	6.36	2.28	5.46
MCC01814	0.12	0.018	1.125	2.68	0.649	0.490	5.63	2.28	4.83
MCC01815	0.12	0.018	1.250	2.68	0.719	0.543	5.05	2.28	4.34
MCC01816	0.12	0.018	1.375	2.68	0.790	0.595	4.58	2.28	3.93
MCC01817	0.12	0.018	1.500	2.68	0.860	0.647	4.19	2.28	3.59
MCC02001	0.12	0.020	0.250	3.61	0.169	0.143	44.82	3.05	38.42
MCC02002	0.12	0.020	0.313	3.61	0.208	0.173	34.48	3.05	29.55
MCC02003	0.12	0.020	0.375	3.61	0.247	0.204	28.09	3.05	24.08
MCC02004	0.12	0.020	0.438	3.61	0.285	0.235	23.70	3.05	20.27
MCC02005	0.12	0.020	0.500	3.61	0.324	0.265	20.46	3.05	17.54
MCC02006	0.12	0.020	0.563	3.61	0.362	0.296	18.00	3.05	15.42
MCC02007	0.12	0.020	0.625	3.61	0.401	0.326	16.09	3.05	13.79
MCC02008	0.12	0.020	0.688	3.61	0.440	0.357	14.52	3.05	12.45
MCC02009	0.12	0.020	0.750	3.61	0.478	0.387	13.26	3.05	11.36
MCC02010	0.12	0.020	0.813	3.61	0.517	0.418	12.18	3.05	10.44
MCC02011	0.12	0.020	0.875	3.61	0.555	0.448	11.27	3.05	9.66
MCC02012	0.12	0.020	0.938	3.61	0.594	0.479	10.48	3.05	8.98
MCC02013	0.12	0.020	1.000	3.61	0.632	0.509	9.80	3.05	8.40
MCC02014	0.12	0.020	1.125	3.61	0.709	0.570	8.67	3.05	7.44
MCC02015	0.12	0.020	1.250	3.61	0.786	0.631	7.78	3.05	6.67
MCC02016	0.12	0.020	1.375	3.61	0.863	0.692	7.00	3.05	6.04
MCC02017	0.12	0.020	1.500	3.61	0.940	0.754	6.45	3.05	5.53
MCC02201	0.12	0.022	0.250	4.75	0.181	0.158	68.92	3.99	59.03



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Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCC02202	0.12	0.022	0.313	4.75	0.223	0.193	52.78	3.99	45.30
MCC02203	0.12	0.022	0.375	4.75	0.264	0.227	42.90	3.99	36.74
MCC02204	0.12	0.022	0.438	4.75	0.306	0.262	36.04	3.99	30.86
MCC02205	0.12	0.022	0.500	4.75	0.348	0.297	31.14	3.99	26.67
MCC02206	0.12	0.022	0.563	4.75	0.390	0.332	27.36	3.99	23.43
MCC02207	0.12	0.022	0.625	4.75	0.431	0.366	24.44	3.99	20.93
MCC02208	0.12	0.022	0.688	4.75	0.473	0.401	22.05	3.99	18.88
MCC02209	0.12	0.022	0.750	4.75	0.514	0.435	20.11	3.99	17.22
MCC02210	0.12	0.022	0.813	4.75	0.556	0.470	18.46	3.99	15.81
MCC02211	0.12	0.022	0.875	4.75	0.597	0.505	17.09	3.99	14.63
MCC02212	0.12	0.022	0.938	4.75	0.639	0.540	15.88	3.99	13.60
MCC02213	0.12	0.022	1.000	4.75	0.680	0.574	14.80	3.99	12.72
MCC02214	0.12	0.022	1.125	4.75	0.764	0.643	13.13	3.99	11.25
MCC02215	0.12	0.022	1.250	4.75	0.847	0.713	11.77	3.99	10.08
MCC02216	0.12	0.022	1.375	4.75	0.930	0.782	10.67	3.99	9.14
MCC02217	0.12	0.022	1.500	4.75	1.013	0.851	9.70	3.99	8.30
MCC02401	0.12	0.024	0.250	6.45	0.190	0.169	106.61	5.61	92.70
MCC02402	0.12	0.024	0.313	6.45	0.234	0.207	81.27	5.61	70.67
MCC02403	0.12	0.024	0.375	6.45	0.277	0.244	65.86	5.61	57.27
MCC02405	0.12	0.024	0.438	6.45	0.321	0.282	55.22	5.61	48.02
MCC02406	0.12	0.024	0.500	6.45	0.365	0.320	47.64	5.61	41.43
MCC02407	0.12	0.024	0.563	6.45	0.409	0.357	41.82	5.61	36.36
MCC02408	0.12	0.024	0.625	6.45	0.452	0.395	37.32	5.61	32.45
MCC02409	0.12	0.024	0.688	6.45	0.496	0.432	33.65	5.61	29.26
MCC02410	0.12	0.024	0.750	6.45	0.540	0.470	30.68	5.61	26.68
MCC02411	0.12	0.024	0.813	6.45	0.584	0.508	28.15	5.61	24.48
MCC02412	0.12	0.024	0.875	6.45	0.627	0.545	26.04	5.61	22.64
MCC02413	0.12	0.024	0.938	6.45	0.672	0.583	24.20	5.61	21.04
MCC02414	0.12	0.024	1.000	6.45	0.715	0.620	22.62	5.61	19.67
MCC02415	0.12	0.024	1.125	6.45	0.803	0.695	20.00	5.61	17.39
MCC02416	0.12	0.024	1.250	6.45	0.890	0.770	17.92	5.61	15.58
MCC02417	0.12	0.024	1.500	6.45	1.065	0.920	14.83	5.61	12.90
MCD02101	0.148	0.021	0.250	3.41	0.154	0.122	35.64	2.89	30.50
MCD02102	0.148	0.021	0.313	3.41	0.188	0.147	27.35	2.89	23.41
MCD02103	0.148	0.021	0.375	3.41	0.222	0.171	22.26	2.89	19.05
MCD02104	0.148	0.021	0.438	3.41	0.256	0.195	18.72	2.89	16.02
MCD02105	0.148	0.021	0.500	3.41	0.289	0.219	16.18	2.89	13.85
MCD02106	0.148	0.021	0.563	3.41	0.323	0.243	14.23	2.89	12.18
MCD02107	0.148	0.021	0.625	3.41	0.357	0.267	12.71	2.89	10.88
MCD02108	0.148	0.021	0.688	3.41	0.391	0.292	11.47	2.89	9.82
MCD02109	0.148	0.021	0.750	3.41	0.424	0.316	10.47	2.89	8.96
MCD02110	0.148	0.021	0.813	3.41	0.458	0.340	9.61	2.89	8.23
MCD02111	0.148	0.021	0.875	3.41	0.492	0.364	8.90	2.89	7.62
MCD02112	0.148	0.021	0.938	3.41	0.526	0.388	8.27	2.89	7.08
MCD02113	0.148	0.021	1.000	3.41	0.559	0.412	7.74	2.89	6.62
MCD02114	0.148	0.021	1.125	3.41	0.627	0.461	6.84	2.89	5.86
MCD02115	0.148	0.021	1.250	3.41	0.694	0.509	6.14	2.89	5.25
MCD02116	0.148	0.021	1.375	3.41	0.762	0.557	5.56	2.89	4.76
MCD02117	0.148	0.021	1.500	3.41	0.829	0.606	5.08	2.89	4.35



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate

MCD02301	0.148	0.023	0.250	4.40	0.165	0.137	52.01	3.72	44.54
MCD02302	0.148	0.023	0.313	4.40	0.202	0.165	39.74	3.72	34.03
MCD02303	0.148	0.023	0.375	4.40	0.238	0.193	32.25	3.72	27.62
MCD02304	0.148	0.023	0.438	4.40	0.275	0.221	27.07	3.72	23.18
MCD02305	0.148	0.023	0.500	4.40	0.312	0.249	23.37	3.72	20.01
MCD02306	0.148	0.023	0.563	4.40	0.348	0.277	20.52	3.72	17.57
MCD02307	0.148	0.023	0.625	4.40	0.385	0.305	18.32	3.72	15.69
MCD02308	0.148	0.023	0.688	4.40	0.421	0.333	16.53	3.72	14.15
MCD02309	0.148	0.023	0.750	4.40	0.458	0.360	15.07	3.72	12.91
MCD02310	0.148	0.023	0.813	4.40	0.495	0.388	13.83	3.72	11.85
MCD02311	0.148	0.023	0.875	4.40	0.531	0.416	12.80	3.72	10.96
MCD02312	0.148	0.023	0.938	4.40	0.568	0.444	11.89	3.72	10.19
MCD02313	0.148	0.023	1.000	4.40	0.604	0.472	11.12	3.72	9.52
MCD02314	0.148	0.023	1.125	4.40	0.677	0.528	9.83	3.72	8.42
MCD02315	0.148	0.023	1.250	4.40	0.750	0.584	8.81	3.72	7.55
MCD02316	0.148	0.023	1.375	4.40	0.823	0.639	7.98	3.72	6.84
MCD02317	0.148	0.023	1.500	4.40	0.896	0.695	7.30	3.72	6.25

MCE01201	0.18	0.012	0.250	0.48	0.106	0.059	3.33	0.42	2.90
MCE01202	0.18	0.012	0.313	0.48	0.127	0.065	2.57	0.42	2.24
MCE01203	0.18	0.012	0.375	0.48	0.148	0.072	2.10	0.42	1.83
MCE01204	0.18	0.012	0.438	0.48	0.168	0.079	1.77	0.42	1.54
MCE01205	0.18	0.012	0.500	0.48	0.189	0.085	1.54	0.42	1.34
MCE01206	0.18	0.012	0.563	0.48	0.210	0.092	1.35	0.42	1.18
MCE01207	0.18	0.012	0.625	0.48	0.230	0.098	1.21	0.42	1.05
MCE01208	0.18	0.012	0.688	0.48	0.251	0.105	1.09	0.42	0.95
MCE01209	0.18	0.012	0.750	0.48	0.271	0.112	1.00	0.42	0.87
MCE01210	0.18	0.012	0.813	0.48	0.292	0.118	0.92	0.42	0.80
MCE01211	0.18	0.012	0.875	0.48	0.312	0.125	0.85	0.42	0.74
MCE01212	0.18	0.012	0.938	0.48	0.333	0.131	0.79	0.42	0.69
MCE01213	0.18	0.012	1.000	0.48	0.354	0.138	0.74	0.42	0.64
MCE01214	0.18	0.012	1.125	0.48	0.395	0.151	0.65	0.42	0.57
MCE01215	0.18	0.012	1.250	0.48	0.436	0.164	0.59	0.42	0.51
MCE01216	0.18	0.012	1.375	0.48	0.477	0.178	0.53	0.42	0.46
MCE01217	0.18	0.012	1.500	0.48	0.518	0.191	0.49	0.42	0.42

MCE01401	0.18	0.014	0.250	0.88	0.104	0.056	6.08	0.76	5.20
MCE01402	0.18	0.014	0.313	0.88	0.126	0.064	4.73	0.76	4.05
MCE01403	0.18	0.014	0.375	0.88	0.147	0.071	3.89	0.76	3.33
MCE01404	0.18	0.014	0.438	0.88	0.169	0.079	3.29	0.76	2.82
MCE01405	0.18	0.014	0.500	0.88	0.190	0.087	2.86	0.76	2.45
MCE01406	0.18	0.014	0.563	0.88	0.212	0.095	2.52	0.76	2.16
MCE01407	0.18	0.014	0.625	0.88	0.233	0.103	2.26	0.76	1.93
MCE01408	0.18	0.014	0.688	0.88	0.255	0.111	2.04	0.76	1.75
MCE01409	0.18	0.014	0.750	0.88	0.276	0.118	1.87	0.76	1.60
MCE01410	0.18	0.014	0.813	0.88	0.298	0.126	1.72	0.76	1.47
MCE01411	0.18	0.014	0.875	0.88	0.319	0.134	1.59	0.76	1.36
MCE01412	0.18	0.014	0.938	0.88	0.341	0.142	1.48	0.76	1.27
MCE01413	0.18	0.014	1.000	0.88	0.362	0.150	1.39	0.76	1.19
MCE01414	0.18	0.014	1.125	0.88	0.405	0.165	1.23	0.76	1.05



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MCE01415	0.18	0.014	1.250	0.88	0.448	0.181	1.10	0.76	0.94
MCE01416	0.18	0.014	1.375	0.88	0.491	0.197	1.00	0.76	0.86
MCE01417	0.18	0.014	1.500	0.88	0.534	0.212	0.92	0.76	0.78
MCE01601	0.18	0.016	0.250	1.29	0.114	0.068	9.48	1.11	8.12
MCE01602	0.18	0.016	0.313	1.29	0.137	0.078	7.36	1.11	6.30
MCE01603	0.18	0.016	0.375	1.29	0.160	0.089	6.03	1.11	5.16
MCE01604	0.18	0.016	0.438	1.29	0.184	0.099	5.09	1.11	4.36
MCE01605	0.18	0.016	0.500	1.29	0.207	0.109	4.42	1.11	3.78
MCE01606	0.18	0.016	0.563	1.29	0.231	0.120	3.89	1.11	3.34
MCE01607	0.18	0.016	0.625	1.29	0.254	0.130	3.49	1.11	2.99
MCE01608	0.18	0.016	0.688	1.29	0.277	0.140	3.15	1.11	2.70
MCE01609	0.18	0.016	0.750	1.29	0.301	0.151	2.88	1.11	2.47
MCE01610	0.18	0.016	0.813	1.29	0.324	0.161	2.65	1.11	2.27
MCE01611	0.18	0.016	0.875	1.29	0.347	0.171	2.45	1.11	2.10
MCE01612	0.18	0.016	0.938	1.29	0.371	0.182	2.28	1.11	1.95
MCE01613	0.18	0.016	1.000	1.29	0.394	0.192	2.14	1.11	1.83
MCE01614	0.18	0.016	1.125	1.29	0.441	0.213	1.89	1.11	1.62
MCE01615	0.18	0.016	1.250	1.29	0.487	0.233	1.70	1.11	1.45
MCE01616	0.18	0.016	1.375	1.29	0.534	0.254	1.54	1.11	1.32
MCE01617	0.18	0.016	1.500	1.29	0.581	0.275	1.41	1.11	1.21
MCE01618	0.18	0.016	1.750	1.29	0.674	0.316	1.20	1.11	1.03
MCE01619	0.18	0.016	2.000	1.29	0.768	0.357	1.05	1.11	0.90
MCE01801	0.18	0.018	0.250	1.80	0.123	0.081	14.21	1.55	12.23
MCE01802	0.18	0.018	0.313	1.80	0.149	0.094	10.98	1.55	9.45
MCE01803	0.18	0.018	0.375	1.80	0.174	0.107	8.97	1.55	7.72
MCE01804	0.18	0.018	0.438	1.80	0.200	0.120	7.57	1.55	6.51
MCE01805	0.18	0.018	0.500	1.80	0.225	0.133	6.55	1.55	5.64
MCE01806	0.18	0.018	0.563	1.80	0.251	0.147	5.77	1.55	4.97
MCE01807	0.18	0.018	0.625	1.80	0.276	0.160	5.16	1.55	4.44
MCE01808	0.18	0.018	0.688	1.80	0.302	0.173	4.66	1.55	4.01
MCE01809	0.18	0.018	0.750	1.80	0.327	0.186	4.26	1.55	3.66
MCE01810	0.18	0.018	0.813	1.80	0.353	0.199	3.91	1.55	3.37
MCE01811	0.18	0.018	0.875	1.80	0.378	0.212	3.63	1.55	3.12
MCE01812	0.18	0.018	0.938	1.80	0.404	0.225	3.37	1.55	2.90
MCE01813	0.18	0.018	1.000	1.80	0.429	0.239	3.16	1.55	2.71
MCE01814	0.18	0.018	1.125	1.80	0.480	0.265	2.79	1.55	2.40
MCE01815	0.18	0.018	1.250	1.80	0.531	0.291	2.51	1.55	2.16
MCE01816	0.18	0.018	1.375	1.80	0.582	0.317	2.27	1.55	1.95
MCE01817	0.18	0.018	1.500	1.80	0.633	0.344	2.08	1.55	1.79
MCE01818	0.18	0.018	1.750	1.80	0.735	0.396	1.77	1.55	1.53
MCE01819	0.18	0.018	2.000	1.80	0.836	0.449	1.55	1.55	1.33
MCE02001	0.18	0.020	0.250	2.43	0.133	0.094	20.79	2.07	17.82
MCE02002	0.18	0.020	0.313	2.43	0.161	0.110	15.99	2.07	13.71
MCE02003	0.18	0.020	0.375	2.43	0.188	0.126	13.03	2.07	11.17
MCE02004	0.18	0.020	0.438	2.43	0.216	0.142	10.97	2.07	9.40
MCE02005	0.18	0.020	0.500	2.43	0.244	0.158	9.49	2.07	8.14
MCE02006	0.18	0.020	0.563	2.43	0.272	0.175	8.35	2.07	7.16
MCE02007	0.18	0.020	0.625	2.43	0.299	0.191	7.46	2.07	6.40
MCE02008	0.18	0.020	0.688	2.43	0.327	0.207	6.74	2.07	5.78



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCE02009	0.18	0.020	0.750	2.43	0.355	0.223	6.15	2.07	5.27
MCE02010	0.18	0.020	0.813	2.43	0.382	0.239	5.65	2.07	4.84
MCE02011	0.18	0.020	0.875	2.43	0.410	0.255	5.23	2.07	4.48
MCE02012	0.18	0.020	0.938	2.43	0.438	0.271	4.86	2.07	4.17
MCE02013	0.18	0.020	1.000	2.43	0.465	0.287	4.55	2.07	3.90
MCE02014	0.18	0.020	1.125	2.43	0.521	0.319	4.02	2.07	3.45
MCE02015	0.18	0.020	1.250	2.43	0.576	0.351	3.61	2.07	3.09
MCE02016	0.18	0.020	1.375	2.43	0.631	0.383	3.27	2.07	2.80
MCE02017	0.18	0.020	1.500	2.43	0.687	0.416	2.99	2.07	2.56
MCE02018	0.18	0.020	1.750	2.43	0.797	0.480	2.55	2.07	2.19
MCE02019	0.18	0.020	2.000	2.43	0.908	0.544	2.23	2.07	1.91
MCE02201	0.18	0.020	0.250	3.18	0.143	0.107	29.73	2.71	25.47
MCE02202	0.18	0.020	0.313	3.18	0.173	0.126	22.77	2.71	19.51
MCE02203	0.18	0.020	0.375	3.18	0.203	0.146	18.50	2.71	15.85
MCE02204	0.18	0.020	0.438	3.18	0.233	0.165	15.54	2.71	13.32
MCE02205	0.18	0.020	0.500	3.18	0.263	0.184	13.43	2.71	11.51
MCE02206	0.18	0.020	0.563	3.18	0.293	0.203	11.80	2.71	10.11
MCE02207	0.18	0.020	0.625	3.18	0.323	0.222	10.54	2.71	9.03
MCE02208	0.18	0.020	0.688	3.18	0.353	0.242	9.51	2.71	8.15
MCE02209	0.18	0.020	0.750	3.18	0.383	0.261	8.67	2.71	7.43
MCE02210	0.18	0.020	0.813	3.18	0.413	0.280	7.96	2.71	6.82
MCE02211	0.18	0.020	0.875	3.18	0.443	0.299	7.37	2.71	6.31
MCE02212	0.18	0.020	0.938	3.18	0.473	0.318	6.85	2.71	5.87
MCE02213	0.18	0.020	1.000	3.18	0.503	0.337	6.41	2.71	5.49
MCE02214	0.18	0.020	1.125	3.18	0.563	0.376	5.67	2.71	4.85
MCE02215	0.18	0.020	1.250	3.18	0.623	0.414	5.08	2.71	4.35
MCE02216	0.18	0.020	1.375	3.18	0.683	0.452	4.60	2.71	3.94
MCE02217	0.18	0.020	1.500	3.18	0.743	0.491	4.21	2.71	3.60
MCE02218	0.18	0.020	1.750	3.18	0.863	0.567	3.59	2.71	3.08
MCE02219	0.18	0.020	2.000	3.18	0.983	0.644	3.13	2.71	2.68
MCE02401	0.18	0.024	0.250	4.07	0.153	0.120	41.81	3.47	35.85
MCE02402	0.18	0.024	0.313	4.07	0.185	0.143	31.87	3.47	27.33
MCE02403	0.18	0.024	0.375	4.07	0.217	0.165	25.83	3.47	22.15
MCE02404	0.18	0.024	0.438	4.07	0.250	0.187	21.66	3.47	18.57
MCE02405	0.18	0.024	0.500	4.07	0.282	0.209	18.69	3.47	16.02
MCE02406	0.18	0.024	0.563	4.07	0.315	0.232	16.40	3.47	14.06
MCE02407	0.18	0.024	0.625	4.07	0.347	0.254	14.64	3.47	12.55
MCE02408	0.18	0.024	0.688	4.07	0.379	0.276	13.20	3.47	11.32
MCE02409	0.18	0.024	0.750	4.07	0.411	0.299	12.03	3.47	10.32
MCE02410	0.18	0.024	0.813	4.07	0.444	0.321	11.04	3.47	9.47
MCE02411	0.18	0.024	0.875	4.07	0.476	0.343	10.21	3.47	8.76
MCE02412	0.18	0.024	0.938	4.07	0.509	0.366	9.49	3.47	8.14
MCE02413	0.18	0.024	1.000	4.07	0.541	0.388	8.87	3.47	7.61
MCE02414	0.18	0.024	1.125	4.07	0.606	0.432	7.84	3.47	6.72
MCE02415	0.18	0.024	1.250	4.07	0.670	0.477	7.03	3.47	6.03
MCE02416	0.18	0.024	1.375	4.07	0.735	0.522	6.36	3.47	5.46
MCE02417	0.18	0.024	1.500	4.07	0.800	0.566	5.82	3.47	4.99
MCE02418	0.18	0.024	1.750	4.07	0.929	0.656	4.96	3.47	4.26
MCE02419	0.18	0.024	2.000	4.07	1.059	0.745	4.33	3.47	3.71



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate

MCE02601	0.18	0.026	0.250	5.11	0.162	0.133	58.03	4.34	49.75
MCE02602	0.18	0.026	0.313	5.11	0.197	0.158	44.02	4.34	37.74
MCE02603	0.18	0.026	0.375	5.11	0.231	0.183	35.57	4.34	30.50
MCE02604	0.18	0.026	0.438	5.11	0.266	0.209	29.77	4.34	25.52
MCE02605	0.18	0.026	0.500	5.11	0.301	0.234	25.65	4.34	21.99
MCE02606	0.18	0.026	0.563	5.11	0.336	0.260	22.48	4.34	19.28
MCE02607	0.18	0.026	0.625	5.11	0.370	0.285	20.05	4.34	17.19
MCE02608	0.18	0.026	0.688	5.11	0.405	0.311	18.07	4.34	15.49
MCE02609	0.18	0.026	0.750	5.11	0.440	0.336	16.46	4.34	14.11
MCE02610	0.18	0.026	0.813	5.11	0.475	0.362	15.10	4.34	12.94
MCE02611	0.18	0.026	0.875	5.11	0.509	0.387	13.96	4.34	11.97
MCE02612	0.18	0.026	0.938	5.11	0.544	0.413	12.97	4.34	11.12
MCE02613	0.18	0.026	1.000	5.11	0.578	0.438	12.12	4.34	10.39
MCE02614	0.18	0.026	1.125	5.11	0.648	0.489	10.71	4.34	9.18
MCE02615	0.18	0.026	1.250	5.11	0.717	0.540	9.59	4.34	8.22
MCE02616	0.18	0.026	1.375	5.11	0.787	0.590	8.68	4.34	7.45
MCE02617	0.18	0.026	1.500	5.11	0.856	0.641	7.93	4.34	6.80
MCE02618	0.18	0.026	1.750	5.11	0.995	0.743	6.77	4.34	5.80
MCE02619	0.18	0.026	2.000	5.11	1.134	0.845	5.90	4.34	5.06

MCE02901	0.18	0.029	0.250	7.01	0.175	0.150	93.30	5.93	79.95
MCE02902	0.18	0.029	0.313	7.01	0.213	0.180	70.25	5.93	60.19
MCE02903	0.18	0.029	0.375	7.01	0.251	0.210	56.51	5.93	48.42
MCE02904	0.18	0.029	0.438	7.01	0.289	0.240	47.14	5.93	40.39
MCE02905	0.18	0.029	0.500	7.01	0.327	0.269	40.53	5.93	34.73
MCE02906	0.18	0.029	0.563	7.01	0.365	0.299	35.47	5.93	30.39
MCE02907	0.18	0.029	0.625	7.01	0.403	0.329	31.59	5.93	27.07
MCE02908	0.18	0.029	0.688	7.01	0.441	0.359	28.43	5.93	24.36
MCE02909	0.18	0.029	0.750	7.01	0.479	0.389	25.89	5.93	22.18
MCE02910	0.18	0.029	0.813	7.01	0.517	0.419	23.73	5.93	20.33
MCE02911	0.18	0.029	0.875	7.01	0.555	0.449	21.93	5.93	18.79
MCE02912	0.18	0.029	0.938	7.01	0.594	0.479	20.36	5.93	17.44
MCE02913	0.18	0.029	1.000	7.01	0.631	0.508	19.02	5.93	16.29
MCE02914	0.18	0.029	1.125	7.01	0.707	0.568	16.79	5.93	14.39
MCE02915	0.18	0.029	1.250	7.01	0.783	0.628	15.03	5.93	12.88
MCE02916	0.18	0.029	1.375	7.01	0.859	0.688	13.60	5.93	11.65
MCE02917	0.18	0.029	1.500	7.01	0.936	0.747	12.42	5.93	10.64
MCE02918	0.18	0.029	1.750	7.01	1.088	0.867	10.59	5.93	9.07
MCE02919	0.18	0.029	2.000	7.01	1.240	0.986	9.22	5.93	7.90

MCE03201	0.18	0.032	0.250	9.43	0.186	0.165	147.59	7.94	126.45
MCE03202	0.18	0.032	0.313	9.43	0.227	0.199	110.25	7.94	94.46
MCE03203	0.18	0.032	0.375	9.43	0.268	0.233	88.27	7.94	75.63
MCE03204	0.18	0.032	0.438	9.43	0.310	0.267	73.40	7.94	62.89
MCE03205	0.18	0.032	0.500	9.43	0.350	0.300	62.96	7.94	53.95
MCE03206	0.18	0.032	0.563	9.43	0.392	0.334	55.01	7.94	47.14
MCE03207	0.18	0.032	0.625	9.43	0.432	0.368	48.93	7.94	41.93
MCE03208	0.18	0.032	0.688	9.43	0.474	0.402	43.99	7.94	37.69
MCE03209	0.18	0.032	0.750	9.43	0.514	0.436	40.02	7.94	34.29
MCE03210	0.18	0.032	0.813	9.43	0.556	0.470	36.65	7.94	31.40



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCE03211	0.18	0.032	0.875	9.43	0.596	0.504	33.85	7.94	29.00
MCE03212	0.18	0.032	0.938	9.43	0.638	0.538	31.41	7.94	26.91
MCE03213	0.18	0.032	1.000	9.43	0.678	0.571	29.33	7.94	25.13
MCE03214	0.18	0.032	1.125	9.43	0.761	0.639	25.87	7.94	22.17
MCE03215	0.18	0.032	1.250	9.43	0.843	0.707	23.15	7.94	19.83
MCE03216	0.18	0.032	1.375	9.43	0.925	0.775	20.94	7.94	17.94
MCE03217	0.18	0.032	1.500	9.43	1.007	0.842	19.12	7.94	16.38
MCE03218	0.18	0.032	1.750	9.43	1.171	0.978	16.28	7.94	13.95
MCE03219	0.18	0.032	2.000	9.43	1.335	1.113	14.18	7.94	12.15
MCE03601	0.18	0.036	0.250	13.12	0.200	0.183	261.84	11.41	227.69
MCE03602	0.18	0.036	0.313	13.12	0.245	0.223	193.39	11.41	168.17
MCE03603	0.18	0.036	0.375	13.12	0.290	0.261	153.82	11.41	133.76
MCE03604	0.18	0.036	0.438	13.12	0.335	0.301	127.34	11.41	110.73
MCE03605	0.18	0.036	0.500	13.12	0.379	0.339	108.90	11.41	94.69
MCE03606	0.18	0.036	0.563	13.12	0.425	0.379	94.92	11.41	82.54
MCE03607	0.18	0.036	0.625	13.12	0.469	0.417	84.28	11.41	73.29
MCE03608	0.18	0.036	0.688	13.12	0.515	0.457	75.66	11.41	65.79
MCE03609	0.18	0.036	0.750	13.12	0.559	0.495	68.74	11.41	59.78
MCE03610	0.18	0.036	0.813	13.12	0.604	0.535	62.90	11.41	54.69
MCE03611	0.18	0.036	0.875	13.12	0.649	0.574	58.04	11.41	50.47
MCE03612	0.18	0.036	0.938	13.12	0.694	0.613	53.82	11.41	46.80
MCE03613	0.18	0.036	1.000	13.12	0.739	0.652	50.22	11.41	43.67
MCE03614	0.18	0.036	1.125	13.12	0.829	0.730	44.26	11.41	38.49
MCE03615	0.18	0.036	1.250	13.12	0.918	0.808	39.56	11.41	34.40
MCE03616	0.18	0.036	1.375	13.12	1.008	0.886	35.77	11.41	31.10
MCE03617	0.18	0.036	1.500	13.12	1.098	0.964	32.64	11.41	28.38
MCE03618	0.18	0.036	1.750	13.12	1.278	1.120	27.78	11.41	24.15
MCE03619	0.18	0.036	2.000	13.12	1.457	1.276	24.17	11.41	21.02
MCF01801	0.21	0.018	0.250	1.50	0.115	0.070	11.17	1.31	9.71
MCF01802	0.21	0.018	0.313	1.50	0.139	0.080	8.63	1.31	7.50
MCF01803	0.21	0.018	0.375	1.50	0.162	0.090	7.05	1.31	6.13
MCF01804	0.21	0.018	0.438	1.50	0.185	0.101	5.94	1.31	5.17
MCF01805	0.21	0.018	0.500	1.50	0.208	0.111	5.15	1.31	4.48
MCF01806	0.21	0.018	0.563	1.50	0.231	0.121	4.53	1.31	3.94
MCF01807	0.21	0.018	0.625	1.50	0.254	0.131	4.06	1.31	3.53
MCF01808	0.21	0.018	0.688	1.50	0.278	0.141	3.67	1.31	3.19
MCF01809	0.21	0.018	0.750	1.50	0.300	0.151	3.35	1.31	2.91
MCF01810	0.21	0.018	0.813	1.50	0.324	0.161	3.08	1.31	2.67
MCF01811	0.21	0.018	0.875	1.50	0.347	0.171	2.85	1.31	2.48
MCF01812	0.21	0.018	0.938	1.50	0.370	0.181	2.65	1.31	2.30
MCF01813	0.21	0.018	1.000	1.50	0.393	0.191	2.48	1.31	2.16
MCF01814	0.21	0.018	1.125	1.50	0.439	0.211	2.19	1.31	1.91
MCF01815	0.21	0.018	1.250	1.50	0.486	0.231	1.97	1.31	1.71
MCF01816	0.21	0.018	1.375	1.50	0.532	0.251	1.78	1.31	1.55
MCF01817	0.21	0.018	1.500	1.50	0.578	0.271	1.63	1.31	1.42
MCF01818	0.21	0.018	1.750	1.50	0.671	0.311	1.39	1.31	1.21
MCF01819	0.21	0.018	2.000	1.50	0.764	0.351	1.22	1.31	1.06
MCF02201	0.21	0.022	0.250	2.73	0.132	0.092	23.11	2.33	19.82



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCF02202	0.21	0.022	0.313	2.73	0.158	0.107	17.70	2.33	15.18
MCF02203	0.21	0.022	0.375	2.73	0.185	0.122	14.39	2.33	12.33
MCF02204	0.21	0.022	0.438	2.73	0.212	0.136	12.09	2.33	10.36
MCF02205	0.21	0.022	0.500	2.73	0.238	0.151	10.44	2.33	8.95
MCF02206	0.21	0.022	0.563	2.73	0.265	0.166	9.17	2.33	7.87
MCF02207	0.21	0.022	0.625	2.73	0.291	0.180	8.20	2.33	7.03
MCF02208	0.21	0.022	0.688	2.73	0.318	0.195	7.39	2.33	6.34
MCF02209	0.21	0.022	0.750	2.73	0.344	0.209	6.74	2.33	5.78
MCF02210	0.21	0.022	0.813	2.73	0.371	0.224	6.19	2.33	5.31
MCF02211	0.21	0.022	0.875	2.73	0.398	0.239	5.73	2.33	4.91
MCF02212	0.21	0.022	0.938	2.73	0.424	0.253	5.33	2.33	4.57
MCF02213	0.21	0.022	1.000	2.73	0.451	0.268	4.98	2.33	4.27
MCF02214	0.21	0.022	1.125	2.73	0.504	0.297	4.40	2.33	3.78
MCF02215	0.21	0.022	1.250	2.73	0.557	0.326	3.95	2.33	3.38
MCF02216	0.21	0.022	1.375	2.73	0.610	0.356	3.58	2.33	3.07
MCF02217	0.21	0.022	1.500	2.73	0.664	0.385	3.27	2.33	2.80
MCF02218	0.21	0.022	1.750	2.73	0.770	0.443	2.79	2.33	2.39
MCF02219	0.21	0.022	2.000	2.73	0.877	0.502	2.43	2.33	2.09

MCF02601	0.21	0.026	0.250	4.40	0.149	0.115	43.45	3.74	37.24
MCF02602	0.21	0.026	0.313	4.40	0.180	0.135	32.96	3.74	28.25
MCF02603	0.21	0.026	0.375	4.40	0.210	0.155	26.63	3.74	22.83
MCF02604	0.21	0.026	0.438	4.40	0.241	0.175	22.29	3.74	19.10
MCF02605	0.21	0.026	0.500	4.40	0.271	0.195	19.20	3.74	16.46
MCF02606	0.21	0.026	0.563	4.40	0.302	0.215	16.84	3.74	14.43
MCF02607	0.21	0.026	0.625	4.40	0.332	0.235	15.01	3.74	12.87
MCF02608	0.21	0.026	0.688	4.40	0.363	0.255	13.53	3.74	11.59
MCF02609	0.21	0.026	0.750	4.40	0.393	0.274	12.33	3.74	10.56
MCF02610	0.21	0.026	0.813	4.40	0.424	0.295	11.30	3.74	9.69
MCF02611	0.21	0.026	0.875	4.40	0.454	0.314	10.45	3.74	8.96
MCF02612	0.21	0.026	0.938	4.40	0.485	0.334	9.71	3.74	8.32
MCF02613	0.21	0.026	1.000	4.40	0.516	0.354	9.07	3.74	7.78
MCF02614	0.21	0.026	1.125	4.40	0.577	0.394	8.02	3.74	6.87
MCF02615	0.21	0.026	1.250	4.40	0.638	0.434	7.18	3.74	6.16
MCF02616	0.21	0.026	1.375	4.40	0.699	0.474	6.50	3.74	5.57
MCF02617	0.21	0.026	1.500	4.40	0.760	0.513	5.94	3.74	5.09
MCF02618	0.21	0.026	1.750	4.40	0.882	0.593	5.07	3.74	4.34
MCF02619	0.21	0.026	2.000	4.40	1.005	0.673	4.42	3.74	3.79

MCG01401	0.24	0.014	0.250	0.48	0.109	0.062	3.39	0.42	2.95
MCG01402	0.24	0.014	0.313	0.48	0.129	0.068	2.60	0.42	2.26
MCG01403	0.24	0.014	0.375	0.48	0.149	0.074	2.12	0.42	1.84
MCG01404	0.24	0.014	0.438	0.48	0.169	0.080	1.78	0.42	1.55
MCG01405	0.24	0.014	0.500	0.48	0.189	0.086	1.54	0.42	1.34
MCG01406	0.24	0.014	0.563	0.48	0.209	0.091	1.35	0.42	1.18
MCG01407	0.24	0.014	0.625	0.48	0.229	0.097	1.21	0.42	1.05
MCG01408	0.24	0.014	0.750	0.48	0.269	0.109	1.00	0.42	0.87
MCG01409	0.24	0.014	0.875	0.48	0.310	0.121	0.85	0.42	0.74
MCG01410	0.24	0.014	1.000	0.48	0.350	0.133	0.74	0.42	0.64
MCG01411	0.24	0.014	1.250	0.48	0.430	0.157	0.58	0.42	0.51
MCG01412	0.24	0.014	1.500	0.48	0.510	0.180	0.48	0.42	0.42

Unground Ends



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCG01413	0.24	0.014	1.750	0.48	0.591	0.204	0.41	0.42	0.36
MCG01414	0.24	0.014	2.000	0.48	0.671	0.228	0.36	0.42	0.31
MCG01600	0.24	0.016	0.250	0.94	0.102	0.053	6.36	0.82	5.53
MCG01601	0.24	0.016	0.313	0.94	0.123	0.059	4.94	0.82	4.29
MCG01602	0.24	0.016	0.375	0.94	0.143	0.065	4.04	0.82	3.52
MCG01603	0.24	0.016	0.438	0.94	0.163	0.071	3.42	0.82	2.97
MCG01604	0.24	0.016	0.500	0.94	0.183	0.077	2.96	0.82	2.58
MCG01605	0.24	0.016	0.563	0.94	0.203	0.083	2.61	0.82	2.27
MCG01606	0.24	0.016	0.625	0.94	0.223	0.089	2.34	0.82	2.03
MCG01607	0.24	0.016	0.688	0.94	0.244	0.095	2.11	0.82	1.84
MCG01608	0.24	0.016	0.750	0.94	0.264	0.101	1.93	0.82	1.68
MCG01609	0.24	0.016	0.813	0.94	0.284	0.108	1.78	0.82	1.54
MCG01610	0.24	0.016	0.875	0.94	0.304	0.114	1.65	0.82	1.43
MCG01611	0.24	0.016	1.000	0.94	0.344	0.126	1.43	0.82	1.25
MCG01612	0.24	0.016	1.250	0.94	0.425	0.150	1.14	0.82	0.99
MCG01613	0.24	0.016	1.500	0.94	0.505	0.174	0.94	0.82	0.82
MCG01614	0.24	0.016	1.750	0.94	0.586	0.198	0.81	0.82	0.70
MCG01615	0.24	0.016	2.000	0.94	0.667	0.222	0.70	0.82	0.61
MCG01800	0.24	0.018	0.250	1.31	0.109	0.063	9.34	1.14	8.12
MCG01801	0.24	0.018	0.313	1.31	0.131	0.070	7.22	1.14	6.28
MCG01802	0.24	0.018	0.375	1.31	0.152	0.078	5.90	1.14	5.13
MCG01803	0.24	0.018	0.438	1.31	0.174	0.086	4.97	1.14	4.32
MCG01804	0.24	0.018	0.500	1.31	0.195	0.094	4.31	1.14	3.75
MCG01805	0.24	0.018	0.563	1.31	0.217	0.101	3.79	1.14	3.30
MCG01806	0.24	0.018	0.625	1.31	0.238	0.109	3.39	1.14	2.95
MCG01807	0.24	0.018	0.688	1.31	0.260	0.117	3.07	1.14	2.67
MCG01808	0.24	0.018	0.750	1.31	0.281	0.125	2.80	1.14	2.43
MCG01809	0.24	0.018	0.813	1.31	0.303	0.132	2.57	1.14	2.24
MCG01810	0.24	0.018	0.875	1.31	0.324	0.140	2.38	1.14	2.07
MCG01811	0.24	0.018	1.000	1.31	0.367	0.156	2.07	1.14	1.80
MCG01812	0.24	0.018	1.250	1.31	0.453	0.187	1.65	1.14	1.43
MCG01813	0.24	0.018	1.500	1.31	0.538	0.218	1.37	1.14	1.19
MCG01814	0.24	0.018	1.750	1.31	0.624	0.249	1.17	1.14	1.01
MCG01815	0.24	0.018	2.000	1.31	0.710	0.280	1.02	1.14	0.89
MCG02001	0.24	0.020	0.250	1.84	0.116	0.071	13.73	1.58	11.80
MCG02002	0.24	0.020	0.313	1.84	0.139	0.081	10.56	1.58	9.08
MCG02003	0.24	0.020	0.375	1.84	0.161	0.090	8.61	1.58	7.40
MCG02004	0.24	0.020	0.438	1.84	0.184	0.100	7.24	1.58	6.23
MCG02005	0.24	0.020	0.500	1.84	0.207	0.109	6.27	1.58	5.39
MCG02006	0.24	0.020	0.563	1.84	0.230	0.118	5.51	1.58	4.74
MCG02007	0.24	0.020	0.625	1.84	0.252	0.128	4.93	1.58	4.24
MCG02008	0.24	0.020	0.688	1.84	0.275	0.137	4.45	1.58	3.82
MCG02009	0.24	0.020	0.750	1.84	0.297	0.146	4.06	1.58	3.49
MCG02010	0.24	0.020	0.813	1.84	0.320	0.156	3.73	1.58	3.21
MCG02011	0.24	0.020	0.875	1.84	0.343	0.165	3.45	1.58	2.97
MCG02012	0.24	0.020	0.938	1.84	0.365	0.175	3.21	1.58	2.76
MCG02013	0.24	0.020	1.000	1.84	0.388	0.184	3.00	1.58	2.58
MCG02014	0.24	0.020	1.125	1.84	0.433	0.203	2.66	1.58	2.28



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCG02015	0.24	0.020	1.250	1.84	0.478	0.221	2.38	1.58	2.05
MCG02016	0.24	0.020	1.375	1.84	0.524	0.240	2.16	1.58	1.86
MCG02017	0.24	0.020	1.500	1.84	0.569	0.259	1.97	1.58	1.70
MCG02018	0.24	0.020	1.750	1.84	0.660	0.296	1.69	1.58	1.45
MCG02019	0.24	0.020	2.000	1.84	0.750	0.334	1.47	1.58	1.26
MCG02201	0.24	0.022	0.250	2.40	0.124	0.082	19.03	2.05	16.29
MCG02202	0.24	0.022	0.313	2.40	0.148	0.093	14.57	2.05	12.48
MCG02203	0.24	0.022	0.375	2.40	0.172	0.104	11.84	2.05	10.14
MCG02204	0.24	0.022	0.438	2.40	0.196	0.116	9.95	2.05	8.52
MCG02205	0.24	0.022	0.500	2.40	0.220	0.127	8.60	2.05	7.36
MCG02206	0.24	0.022	0.563	2.40	0.245	0.139	7.55	2.05	6.47
MCG02207	0.24	0.022	0.625	2.40	0.269	0.150	6.75	2.05	5.78
MCG02208	0.24	0.022	0.688	2.40	0.293	0.161	6.09	2.05	5.21
MCG02209	0.24	0.022	0.750	2.40	0.317	0.173	5.55	2.05	4.75
MCG02210	0.24	0.022	0.813	2.40	0.341	0.184	5.10	2.05	4.36
MCG02211	0.24	0.022	0.875	2.40	0.365	0.196	4.72	2.05	4.04
MCG02212	0.24	0.022	0.938	2.40	0.390	0.207	4.39	2.05	3.75
MCG02213	0.24	0.022	1.000	2.40	0.414	0.218	4.10	2.05	3.51
MCG02214	0.24	0.022	1.125	2.40	0.462	0.241	3.63	2.05	3.11
MCG02215	0.24	0.022	1.250	2.40	0.510	0.264	3.25	2.05	2.78
MCG02216	0.24	0.022	1.375	2.40	0.559	0.287	2.95	2.05	2.52
MCG02217	0.24	0.022	1.500	2.40	0.607	0.310	2.69	2.05	2.31
MCG02218	0.24	0.022	1.750	2.40	0.704	0.355	2.30	2.05	1.97
MCG02219	0.24	0.022	2.000	2.40	0.801	0.401	2.00	2.05	1.72
MCG02400	0.24	0.024	0.250	3.08	0.131	0.092	25.93	2.63	22.24
MCG02401	0.24	0.024	0.375	3.08	0.183	0.119	16.02	2.63	13.74
MCG02402	0.24	0.024	0.438	3.08	0.209	0.133	13.43	2.63	11.52
MCG02403	0.24	0.024	0.500	3.08	0.234	0.146	11.59	2.63	9.94
MCG02404	0.24	0.024	0.563	3.08	0.260	0.160	10.17	2.63	8.72
MCG02405	0.24	0.024	0.625	3.08	0.286	0.173	9.08	2.63	7.79
MCG02406	0.24	0.024	0.688	3.08	0.312	0.187	8.19	2.63	7.02
MCG02407	0.24	0.024	0.750	3.08	0.338	0.200	7.46	2.63	6.40
MCG02408	0.24	0.024	0.813	3.08	0.364	0.214	6.85	2.63	5.87
MCG02409	0.24	0.024	0.875	3.08	0.389	0.227	6.33	2.63	5.43
MCG02410	0.24	0.024	0.938	3.08	0.415	0.241	5.89	2.63	5.05
MCG02411	0.24	0.024	1.000	3.08	0.441	0.254	5.50	2.63	4.72
MCG02412	0.24	0.024	1.125	3.08	0.492	0.282	4.86	2.63	4.17
MCG02413	0.24	0.024	1.250	3.08	0.544	0.309	4.36	2.63	3.74
MCG02414	0.24	0.024	1.375	3.08	0.596	0.336	3.95	2.63	3.39
MCG02415	0.24	0.024	1.500	3.08	0.647	0.363	3.61	2.63	3.09
MCG02416	0.24	0.024	1.750	3.08	0.750	0.417	3.08	2.63	2.64
MCG02417	0.24	0.024	2.000	3.08	0.853	0.471	2.68	2.63	2.30
MCG02418	0.24	0.024	2.250	3.08	0.957	0.525	2.38	2.63	2.04
MCG02419	0.24	0.024	2.500	3.08	1.060	0.580	2.14	2.63	1.83
MCG02600	0.24	0.026	0.250	3.86	0.139	0.102	34.80	3.31	29.91
MCG02601	0.24	0.026	0.313	3.86	0.167	0.118	26.40	3.31	22.69
MCG02602	0.24	0.026	0.375	3.86	0.194	0.134	21.33	3.31	18.34
MCG02603	0.24	0.026	0.438	3.86	0.222	0.150	17.85	3.31	15.34



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCG02604	0.24	0.026	0.500	3.86	0.249	0.165	15.38	3.31	13.22
MCG02605	0.24	0.026	0.563	3.86	0.277	0.181	13.49	3.31	11.59
MCG02606	0.24	0.026	0.625	3.86	0.304	0.197	12.03	3.31	10.34
MCG02607	0.24	0.026	0.688	3.86	0.332	0.213	10.84	3.31	9.31
MCG02608	0.24	0.026	0.750	3.86	0.359	0.229	9.87	3.31	8.48
MCG02609	0.24	0.026	0.813	3.86	0.387	0.244	9.06	3.31	7.78
MCG02610	0.24	0.026	0.875	3.86	0.414	0.260	8.37	3.31	7.20
MCG02611	0.24	0.026	0.938	3.86	0.442	0.276	7.78	3.31	6.68
MCG02612	0.24	0.026	1.000	3.86	0.469	0.292	7.27	3.31	6.25
MCG02613	0.24	0.026	1.125	3.86	0.524	0.323	6.42	3.31	5.52
MCG02614	0.24	0.026	1.250	3.86	0.579	0.355	5.75	3.31	4.94
MCG02615	0.24	0.026	1.375	3.86	0.634	0.387	5.21	3.31	4.48
MCG02616	0.24	0.026	1.500	3.86	0.689	0.418	4.76	3.31	4.09
MCG02617	0.24	0.026	1.750	3.86	0.799	0.481	4.06	3.31	3.49
MCG02618	0.24	0.026	2.000	3.86	0.908	0.545	3.54	3.31	3.04
MCG02619	0.24	0.026	2.250	3.86	1.018	0.608	3.14	3.31	2.69
MCG02620	0.24	0.026	2.500	3.86	1.128	0.671	2.82	3.31	2.42
MCG02900	0.24	0.029	0.250	5.29	0.150	0.117	53.06	4.50	45.48
MCG02901	0.24	0.029	0.313	5.29	0.181	0.137	39.95	4.50	34.25
MCG02902	0.24	0.029	0.375	5.29	0.210	0.156	32.14	4.50	27.55
MCG02903	0.24	0.029	0.438	5.29	0.241	0.175	26.81	4.50	22.98
MCG02904	0.24	0.029	0.500	5.29	0.271	0.194	23.05	4.50	19.76
MCG02905	0.24	0.029	0.563	5.29	0.301	0.214	20.17	4.50	17.29
MCG02906	0.24	0.029	0.625	5.29	0.331	0.233	17.97	4.50	15.40
MCG02907	0.24	0.029	0.688	5.29	0.361	0.252	16.17	4.50	13.86
MCG02908	0.24	0.029	0.750	5.29	0.391	0.271	14.72	4.50	12.62
MCG02909	0.24	0.029	0.813	5.29	0.421	0.291	13.49	4.50	11.57
MCG02910	0.24	0.029	0.875	5.29	0.451	0.310	12.47	4.50	10.69
MCG02911	0.24	0.029	0.938	5.29	0.481	0.329	11.58	4.50	9.92
MCG02912	0.24	0.029	1.000	5.29	0.511	0.348	10.82	4.50	9.27
MCG02913	0.24	0.029	1.125	5.29	0.571	0.387	9.55	4.50	8.18
MCG02914	0.24	0.029	1.250	5.29	0.631	0.425	8.55	4.50	7.33
MCG02915	0.24	0.029	1.375	5.29	0.692	0.464	7.74	4.50	6.63
MCG02916	0.24	0.029	1.500	5.29	0.752	0.502	7.07	4.50	6.06
MCG02917	0.24	0.029	1.750	5.29	0.872	0.579	6.02	4.50	5.16
MCG02918	0.24	0.029	2.000	5.29	0.992	0.656	5.25	4.50	4.50
MCG02919	0.24	0.029	2.250	5.29	1.112	0.733	4.65	4.50	3.98
MCG02920	0.24	0.029	2.500	5.29	1.233	0.810	4.17	4.50	3.58
MCG03200	0.24	0.032	0.250	7.10	0.161	0.131	79.72	6.04	68.34
MCG03201	0.24	0.032	0.313	7.10	0.194	0.154	59.55	6.04	51.05
MCG03202	0.24	0.032	0.375	7.10	0.226	0.176	47.68	6.04	40.87
MCG03203	0.24	0.032	0.438	7.10	0.259	0.199	39.65	6.04	33.99
MCG03204	0.24	0.032	0.500	7.10	0.291	0.222	34.01	6.04	29.15
MCG03205	0.24	0.032	0.563	7.10	0.324	0.244	29.72	6.04	25.47
MCG03206	0.24	0.032	0.625	7.10	0.356	0.267	26.43	6.04	22.66
MCG03207	0.24	0.032	0.688	7.10	0.389	0.290	23.76	6.04	20.37
MCG03208	0.24	0.032	0.750	7.10	0.421	0.312	21.62	6.04	18.53
MCG03209	0.24	0.032	0.813	7.10	0.454	0.335	19.80	6.04	16.97
MCG03210	0.24	0.032	0.875	7.10	0.487	0.357	18.28	6.04	15.67



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCG03211	0.24	0.032	0.938	7.10	0.519	0.380	16.97	6.04	14.54
MCG03212	0.24	0.032	1.000	7.10	0.552	0.402	15.84	6.04	13.58
MCG03213	0.24	0.032	1.125	7.10	0.617	0.448	13.98	6.04	11.98
MCG03214	0.24	0.032	1.250	7.10	0.682	0.493	12.50	6.04	10.72
MCG03215	0.24	0.032	1.375	7.10	0.747	0.538	11.31	6.04	9.70
MCG03216	0.24	0.032	1.500	7.10	0.812	0.583	10.33	6.04	8.85
MCG03217	0.24	0.032	1.750	7.10	0.943	0.673	8.80	6.04	7.54
MCG03218	0.24	0.032	2.000	7.10	1.073	0.764	7.66	6.04	6.57
MCG03219	0.24	0.032	2.250	7.10	1.203	0.854	6.78	6.04	5.81
MCG03220	0.24	0.032	2.500	7.10	1.333	0.945	6.09	6.04	5.22
MCG03500	0.24	0.035	0.250	8.94	0.172	0.146	114.94	7.58	98.46
MCG03501	0.24	0.035	0.313	8.94	0.208	0.173	85.14	7.58	72.94
MCG03502	0.24	0.035	0.375	8.94	0.243	0.199	67.84	7.58	58.11
MCG03503	0.24	0.035	0.438	8.94	0.279	0.226	56.22	7.58	48.16
MCG03504	0.24	0.035	0.500	8.94	0.314	0.252	48.12	7.58	41.22
MCG03505	0.24	0.035	0.563	8.94	0.350	0.279	41.97	7.58	35.95
MCG03506	0.24	0.035	0.625	8.94	0.385	0.305	37.28	7.58	31.93
MCG03507	0.24	0.035	0.688	8.94	0.421	0.332	33.48	7.58	28.68
MCG03508	0.24	0.035	0.750	8.94	0.456	0.358	30.43	7.58	26.06
MCG03509	0.24	0.035	0.813	8.94	0.492	0.385	27.85	7.58	23.85
MCG03510	0.24	0.035	0.875	8.94	0.527	0.411	25.70	7.58	22.02
MCG03511	0.24	0.035	0.938	8.94	0.563	0.438	23.84	7.58	20.42
MCG03512	0.24	0.035	1.000	8.94	0.598	0.464	22.25	7.58	19.06
MCG03513	0.24	0.035	1.125	8.94	0.669	0.517	19.61	7.58	16.80
MCG03514	0.24	0.035	1.250	8.94	0.740	0.570	17.53	7.58	15.02
MCG03515	0.24	0.035	1.375	8.94	0.811	0.623	15.85	7.58	13.58
MCG03516	0.24	0.035	1.500	8.94	0.882	0.676	14.47	7.58	12.39
MCG03517	0.24	0.035	1.750	8.94	1.024	0.782	12.32	7.58	10.55
MCG03518	0.24	0.035	2.000	8.94	1.166	0.888	10.72	7.58	9.18
MCG03519	0.24	0.035	2.250	8.94	1.308	0.993	9.49	7.58	8.13
MCG03520	0.24	0.035	2.500	8.94	1.449	1.099	8.51	7.58	7.29
MCG03800	0.24	0.038	0.250	11.19	0.182	0.160	165.19	9.47	141.59
MCG03801	0.24	0.038	0.313	11.19	0.221	0.190	121.28	9.47	103.95
MCG03802	0.24	0.038	0.375	11.19	0.259	0.220	96.13	9.47	82.40
MCG03803	0.24	0.038	0.438	11.19	0.297	0.250	79.40	9.47	68.06
MCG03804	0.24	0.038	0.500	11.19	0.335	0.280	67.79	9.47	58.10
MCG03805	0.24	0.038	0.563	11.19	0.373	0.310	59.02	9.47	50.59
MCG03806	0.24	0.038	0.625	11.19	0.411	0.340	52.36	9.47	44.88
MCG03807	0.24	0.038	0.688	11.19	0.450	0.370	46.97	9.47	40.26
MCG03808	0.24	0.038	0.750	11.19	0.488	0.400	42.65	9.47	36.55
MCG03809	0.24	0.038	0.813	11.19	0.526	0.430	39.00	9.47	33.43
MCG03810	0.24	0.038	0.875	11.19	0.564	0.460	35.97	9.47	30.83
MCG03811	0.24	0.038	0.938	11.19	0.602	0.490	33.35	9.47	28.58
MCG03812	0.24	0.038	1.000	11.19	0.640	0.520	31.11	9.47	26.66
MCG03813	0.24	0.038	1.125	11.19	0.716	0.580	27.40	9.47	23.49
MCG03814	0.24	0.038	1.250	11.19	0.793	0.640	24.48	9.47	20.99
MCG03815	0.24	0.038	1.375	11.19	0.869	0.701	22.13	9.47	18.97
MCG03816	0.24	0.038	1.500	11.19	0.945	0.761	20.19	9.47	17.30
MCG03817	0.24	0.038	1.750	11.19	1.098	0.881	17.17	9.47	14.72



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCG03818	0.24	0.038	2.000	11.19	1.251	1.001	14.94	9.47	12.80
MCG03819	0.24	0.038	2.250	11.19	1.403	1.121	13.22	9.47	11.33
MCG03820	0.24	0.038	2.500	11.19	1.556	1.241	11.86	9.47	10.16
MCG04000	0.24	0.040	0.250	12.89	0.188	0.168	209.37	10.90	179.57
MCG04001	0.24	0.040	0.313	12.89	0.229	0.200	152.76	10.90	131.02
MCG04002	0.24	0.040	0.375	12.89	0.268	0.233	120.65	10.90	103.48
MCG04003	0.24	0.040	0.438	12.89	0.308	0.265	99.42	10.90	85.27
MCG04004	0.24	0.040	0.500	12.89	0.348	0.297	84.75	10.90	72.68
MCG04005	0.24	0.040	0.563	12.89	0.388	0.330	73.69	10.90	63.20
MCG04006	0.24	0.040	0.625	12.89	0.428	0.362	65.31	10.90	56.01
MCG04007	0.24	0.040	0.688	12.89	0.468	0.394	58.54	10.90	50.21
MCG04008	0.24	0.040	0.750	12.89	0.507	0.426	53.12	10.90	45.56
MCG04009	0.24	0.040	0.813	12.89	0.547	0.459	48.56	10.90	41.65
MCG04010	0.24	0.040	0.875	12.89	0.587	0.491	44.77	10.90	38.40
MCG04011	0.24	0.040	0.938	12.89	0.627	0.524	41.48	10.90	35.58
MCG04012	0.24	0.040	1.000	12.89	0.667	0.556	38.69	10.90	33.18
MCG04013	0.24	0.040	1.125	12.89	0.746	0.620	34.06	10.90	29.21
MCG04014	0.24	0.040	1.250	12.89	0.826	0.685	30.42	10.90	26.09
MCG04015	0.24	0.040	1.375	12.89	0.906	0.749	27.48	10.90	23.57
MCG04016	0.24	0.040	1.500	12.89	0.986	0.814	25.07	10.90	21.50
MCG04017	0.24	0.040	1.750	12.89	1.145	0.943	21.31	10.90	18.28
MCG04018	0.24	0.040	2.000	12.89	1.304	1.073	18.54	10.90	15.90
MCG04019	0.24	0.040	2.250	12.89	1.464	1.202	16.40	10.90	14.07
MCG04020	0.24	0.040	2.500	12.89	1.623	1.331	14.71	10.90	12.61
MCG04201	0.24	0.042	0.375	14.82	0.277	0.244	151.09	12.48	129.52
MCG04202	0.24	0.042	0.438	14.82	0.319	0.279	124.21	12.48	106.47
MCG04203	0.24	0.042	0.500	14.82	0.360	0.313	105.69	12.48	90.60
MCG04204	0.24	0.042	0.563	14.82	0.401	0.348	91.79	12.48	78.69
MCG04205	0.24	0.042	0.625	14.82	0.443	0.382	81.27	12.48	69.67
MCG04206	0.24	0.042	0.688	14.82	0.484	0.416	72.80	12.48	62.40
MCG04207	0.24	0.042	0.750	14.82	0.525	0.451	66.02	12.48	56.59
MCG04208	0.24	0.042	0.813	14.82	0.567	0.485	60.31	12.48	51.70
MCG04209	0.24	0.042	0.875	14.82	0.608	0.519	55.59	12.48	47.65
MCG04210	0.24	0.042	0.938	14.82	0.650	0.554	51.49	12.48	44.13
MCG04211	0.24	0.042	1.000	14.82	0.691	0.588	48.00	12.48	41.15
MCG04212	0.24	0.042	1.125	14.82	0.774	0.657	42.24	12.48	36.21
MCG04213	0.24	0.042	1.250	14.82	0.857	0.726	37.71	12.48	32.32
MCG04214	0.24	0.042	1.375	14.82	0.940	0.795	34.06	12.48	29.19
MCG04215	0.24	0.042	1.500	14.82	1.023	0.863	31.05	12.48	26.62
MCG04216	0.24	0.042	1.750	14.82	1.188	1.001	26.39	12.48	22.62
MCG04217	0.24	0.042	2.000	14.82	1.354	1.139	22.95	12.48	19.67
MCG04218	0.24	0.042	2.250	14.82	1.520	1.276	20.30	12.48	17.40
MCG04219	0.24	0.042	2.500	14.82	1.685	1.414	18.20	12.48	15.60
MCG04501	0.24	0.045	0.375	18.84	0.287	0.257	213.67	15.99	183.94
MCG04502	0.24	0.045	0.438	18.84	0.330	0.294	174.98	15.99	150.64
MCG04503	0.24	0.045	0.500	18.84	0.373	0.331	148.52	15.99	127.86
MCG04504	0.24	0.045	0.563	18.84	0.417	0.368	128.74	15.99	110.83
MCG04505	0.24	0.045	0.625	18.84	0.459	0.404	113.82	15.99	97.99



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCG04506	0.24	0.045	0.688	18.84	0.503	0.441	101.83	15.99	87.66
MCG04507	0.24	0.045	0.750	18.84	0.546	0.478	92.26	15.99	79.43
MCG04508	0.24	0.045	0.813	18.84	0.589	0.515	84.22	15.99	72.51
MCG04510	0.24	0.045	0.875	18.84	0.632	0.551	77.57	15.99	66.78
MCG04511	0.24	0.045	1.000	18.84	0.718	0.625	66.92	15.99	57.61
MCG04512	0.24	0.045	1.250	18.84	0.891	0.771	52.50	15.99	45.19
MCG04513	0.24	0.045	1.500	18.84	1.064	0.918	43.19	15.99	37.18
MCG04514	0.24	0.045	1.750	18.84	1.236	1.065	36.68	15.99	31.58
MCG04515	0.24	0.045	2.000	18.84	1.409	1.212	31.88	15.99	27.45
MCG04516	0.24	0.045	2.250	18.84	1.582	1.359	28.19	15.99	24.27
MCG04517	0.24	0.045	2.500	18.84	1.754	1.506	25.27	15.99	21.75
MCG04801	0.24	0.048	0.375	22.10	0.299	0.274	291.11	16.98	242.44
MCG04802	0.24	0.048	0.438	22.10	0.345	0.314	237.48	16.98	197.78
MCG04803	0.24	0.048	0.500	22.10	0.390	0.353	201.04	16.98	167.42
MCG04804	0.24	0.048	0.563	22.10	0.436	0.394	173.92	16.98	144.84
MCG04805	0.24	0.048	0.625	22.10	0.481	0.433	153.53	16.98	127.86
MCG04806	0.24	0.048	0.688	22.10	0.527	0.473	137.19	16.98	114.26
MCG04807	0.24	0.048	0.750	22.10	0.572	0.513	124.19	16.98	103.42
MCG04808	0.24	0.048	0.813	22.10	0.618	0.553	113.28	16.98	94.34
MCG04809	0.24	0.048	0.875	22.10	0.663	0.592	104.26	16.98	86.83
MCG04810	0.24	0.048	1.000	22.10	0.754	0.672	89.84	16.98	74.82
MCG04811	0.24	0.048	1.250	22.10	0.936	0.831	70.38	16.98	58.61
MCG04812	0.24	0.048	1.500	22.10	1.118	0.991	57.85	16.98	48.18
MCG04813	0.24	0.048	1.750	22.10	1.300	1.150	49.10	16.98	40.89
MCG04814	0.24	0.048	2.000	22.10	1.482	1.309	42.66	16.98	35.52
MCG04815	0.24	0.048	2.250	22.10	1.664	1.468	37.71	16.98	31.40
MCG04816	0.24	0.048	2.500	22.10	1.846	1.628	33.78	16.98	28.14
MCH01801	0.3	0.018	0.375	0.90	0.144	0.067	3.91	0.78	3.40
MCH01802	0.3	0.018	0.438	0.90	0.164	0.073	3.29	0.78	2.86
MCH01803	0.3	0.018	0.500	0.90	0.184	0.078	2.85	0.78	2.48
MCH01804	0.3	0.018	0.563	0.90	0.204	0.084	2.52	0.78	2.19
MCH01805	0.3	0.018	0.625	0.90	0.224	0.090	2.25	0.78	1.96
MCH01806	0.3	0.018	0.688	0.90	0.243	0.096	2.03	0.78	1.77
MCH01807	0.3	0.018	0.750	0.90	0.263	0.101	1.85	0.78	1.61
MCH01808	0.3	0.018	0.813	0.90	0.283	0.107	1.71	0.78	1.48
MCH01809	0.3	0.018	0.875	0.90	0.303	0.113	1.58	0.78	1.37
MCH01810	0.3	0.018	1.000	0.90	0.343	0.124	1.37	0.78	1.19
MCH01811	0.3	0.018	1.125	0.90	0.383	0.136	1.22	0.78	1.06
MCH01812	0.3	0.018	1.250	0.90	0.423	0.147	1.09	0.78	0.95
MCH01813	0.3	0.018	1.500	0.90	0.502	0.170	0.90	0.78	0.79
MCH01814	0.3	0.018	1.750	0.90	0.582	0.193	0.77	0.78	0.67
MCH01815	0.3	0.018	2.000	0.90	0.662	0.216	0.67	0.78	0.59
MCH01816	0.3	0.018	2.250	0.90	0.741	0.239	0.60	0.78	0.52
MCH01817	0.3	0.018	2.500	0.90	0.821	0.261	0.54	0.78	0.47
MCH02201	0.3	0.022	0.375	1.94	0.156	0.083	8.84	1.65	7.57
MCH02202	0.3	0.022	0.438	1.94	0.177	0.090	7.43	1.65	6.36
MCH02203	0.3	0.022	0.500	1.94	0.198	0.098	6.42	1.65	5.49
MCH02204	0.3	0.022	0.563	1.94	0.220	0.105	5.64	1.65	4.83



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCH02205	0.3	0.022	0.625	1.94	0.241	0.112	5.04	1.65	4.31
MCH02206	0.3	0.022	0.688	1.94	0.262	0.120	4.54	1.65	3.89
MCH02207	0.3	0.022	0.750	1.94	0.283	0.127	4.15	1.65	3.55
MCH02208	0.3	0.022	0.813	1.94	0.304	0.135	3.81	1.65	3.26
MCH02209	0.3	0.022	0.875	1.94	0.325	0.142	3.52	1.65	3.02
MCH02210	0.3	0.022	0.938	1.94	0.347	0.149	3.27	1.65	2.80
MCH02211	0.3	0.022	1.000	1.94	0.367	0.157	3.06	1.65	2.62
MCH02212	0.3	0.022	1.125	1.94	0.410	0.171	2.71	1.65	2.32
MCH02213	0.3	0.022	1.250	1.94	0.452	0.186	2.43	1.65	2.08
MCH02214	0.3	0.022	1.375	1.94	0.494	0.201	2.20	1.65	1.88
MCH02215	0.3	0.022	1.500	1.94	0.537	0.216	2.01	1.65	1.72
MCH02216	0.3	0.022	1.750	1.94	0.621	0.245	1.72	1.65	1.47
MCH02217	0.3	0.022	2.000	1.94	0.706	0.274	1.50	1.65	1.28
MCH02218	0.3	0.022	2.250	1.94	0.790	0.304	1.33	1.65	1.14
MCH02219	0.3	0.022	2.500	1.94	0.875	0.333	1.19	1.65	1.02
MCH02601	0.3	0.026	0.375	3.11	0.173	0.106	15.39	2.65	13.19
MCH02602	0.3	0.026	0.438	3.11	0.197	0.116	12.88	2.65	11.04
MCH02603	0.3	0.026	0.500	3.11	0.220	0.127	11.10	2.65	9.51
MCH02604	0.3	0.026	0.563	3.11	0.244	0.137	9.73	2.65	8.34
MCH02605	0.3	0.026	0.625	3.11	0.267	0.148	8.68	2.65	7.43
MCH02606	0.3	0.026	0.688	3.11	0.291	0.158	7.82	2.65	6.70
MCH02607	0.3	0.026	0.750	3.11	0.314	0.169	7.12	2.65	6.10
MCH02608	0.3	0.026	0.813	3.11	0.338	0.179	6.53	2.65	5.60
MCH02609	0.3	0.026	0.875	3.11	0.361	0.189	6.04	2.65	5.18
MCH02610	0.3	0.026	0.938	3.11	0.384	0.200	5.61	2.65	4.81
MCH02611	0.3	0.026	1.000	3.11	0.408	0.210	5.24	2.65	4.49
MCH02612	0.3	0.026	1.125	3.11	0.455	0.231	4.63	2.65	3.97
MCH02613	0.3	0.026	1.250	3.11	0.502	0.252	4.15	2.65	3.56
MCH02614	0.3	0.026	1.375	3.11	0.548	0.273	3.76	2.65	3.22
MCH02615	0.3	0.026	1.500	3.11	0.595	0.294	3.43	2.65	2.94
MCH02616	0.3	0.026	1.750	3.11	0.689	0.336	2.93	2.65	2.51
MCH02617	0.3	0.026	2.000	3.11	0.783	0.377	2.55	2.65	2.19
MCH02618	0.3	0.026	2.250	3.11	0.877	0.419	2.26	2.65	1.94
MCH02619	0.3	0.026	2.500	3.11	0.971	0.461	2.03	2.65	1.74
MCH03001	0.3	0.030	0.375	4.70	0.191	0.129	25.55	4.02	21.93
MCH03002	0.3	0.030	0.438	4.70	0.217	0.143	21.29	4.02	18.27
MCH03003	0.3	0.030	0.500	4.70	0.243	0.157	18.29	4.02	15.70
MCH03004	0.3	0.030	0.563	4.70	0.269	0.171	16.00	4.02	13.73
MCH03005	0.3	0.030	0.625	4.70	0.295	0.185	14.24	4.02	12.23
MCH03006	0.3	0.030	0.688	4.70	0.321	0.198	12.81	4.02	11.00
MCH03007	0.3	0.030	0.750	4.70	0.347	0.212	11.66	4.02	10.01
MCH03008	0.3	0.030	0.813	4.70	0.373	0.226	10.69	4.02	9.17
MCH03009	0.3	0.030	0.875	4.70	0.399	0.240	9.87	4.02	8.48
MCH03010	0.3	0.030	0.938	4.70	0.425	0.254	9.17	4.02	7.87
MCH03011	0.3	0.030	1.000	4.70	0.450	0.267	8.56	4.02	7.35
MCH03012	0.3	0.030	1.125	4.70	0.502	0.295	7.56	4.02	6.49
MCH03013	0.3	0.030	1.250	4.70	0.554	0.322	6.76	4.02	5.80
MCH03014	0.3	0.030	1.375	4.70	0.606	0.350	6.12	4.02	5.25
MCH03015	0.3	0.030	1.500	4.70	0.658	0.378	5.59	4.02	4.80



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCH03016	0.3	0.030	1.750	4.70	0.762	0.433	4.76	4.02	4.09
MCH03017	0.3	0.030	2.000	4.70	0.866	0.488	4.15	4.02	3.56
MCH03018	0.3	0.030	2.250	4.70	0.970	0.543	3.67	4.02	3.15
MCH03019	0.3	0.030	2.500	4.70	1.074	0.598	3.30	4.02	2.83
MCH03201	0.3	0.032	0.375	5.70	0.200	0.141	32.51	4.86	27.84
MCH03202	0.3	0.032	0.438	5.70	0.227	0.157	27.03	4.86	23.15
MCH03203	0.3	0.032	0.500	5.70	0.254	0.172	23.19	4.86	19.86
MCH03204	0.3	0.032	0.563	5.70	0.282	0.188	20.26	4.86	17.35
MCH03205	0.3	0.032	0.625	5.70	0.309	0.203	18.02	4.86	15.43
MCH03206	0.3	0.032	0.688	5.70	0.336	0.219	16.20	4.86	13.88
MCH03207	0.3	0.032	0.750	5.70	0.363	0.234	14.74	4.86	12.62
MCH03208	0.3	0.032	0.813	5.70	0.390	0.250	13.50	4.86	11.56
MCH03209	0.3	0.032	0.875	5.70	0.418	0.265	12.47	4.86	10.68
MCH03210	0.3	0.032	0.938	5.70	0.445	0.281	11.57	4.86	9.91
MCH03211	0.3	0.032	1.000	5.70	0.472	0.296	10.80	4.86	9.25
MCH03212	0.3	0.032	1.125	5.70	0.526	0.327	9.53	4.86	8.16
MCH03213	0.3	0.032	1.250	5.70	0.581	0.358	8.52	4.86	7.30
MCH03214	0.3	0.032	1.375	5.70	0.635	0.389	7.71	4.86	6.60
MCH03215	0.3	0.032	1.500	5.70	0.690	0.420	7.04	4.86	6.03
MCH03216	0.3	0.032	1.750	5.70	0.799	0.482	6.00	4.86	5.14
MCH03217	0.3	0.032	2.000	5.70	0.908	0.544	5.22	4.86	4.47
MCH03218	0.3	0.032	2.250	5.70	1.017	0.606	4.62	4.86	3.96
MCH03219	0.3	0.032	2.500	5.70	1.126	0.668	4.15	4.86	3.55
MCH03501	0.3	0.035	0.375	7.60	0.212	0.157	46.51	6.37	39.40
MCH03502	0.3	0.035	0.438	7.60	0.241	0.175	38.54	6.37	32.66
MCH03503	0.3	0.035	0.500	7.60	0.270	0.193	32.99	6.37	27.95
MCH03504	0.3	0.035	0.563	7.60	0.299	0.211	28.77	6.37	24.38
MCH03505	0.3	0.035	0.625	7.60	0.328	0.229	25.56	6.37	21.65
MCH03506	0.3	0.035	0.688	7.60	0.357	0.247	22.95	6.37	19.45
MCH03507	0.3	0.035	0.750	7.60	0.386	0.264	20.86	6.37	17.67
MCH03508	0.3	0.035	0.813	7.60	0.415	0.283	19.09	6.37	16.17
MCH03509	0.3	0.035	0.875	7.60	0.444	0.300	17.62	6.37	14.93
MCH03510	0.3	0.035	0.938	7.60	0.473	0.318	16.34	6.37	13.85
MCH03511	0.3	0.035	1.000	7.60	0.502	0.336	15.25	6.37	12.92
MCH03512	0.3	0.035	1.125	7.60	0.560	0.372	13.44	6.37	11.39
MCH03513	0.3	0.035	1.250	7.60	0.618	0.408	12.02	6.37	10.18
MCH03514	0.3	0.035	1.375	7.60	0.676	0.443	10.87	6.37	9.21
MCH03515	0.3	0.035	1.500	7.60	0.734	0.479	9.92	6.37	8.40
MCH03516	0.3	0.035	1.750	7.60	0.850	0.551	8.44	6.37	7.15
MCH03517	0.3	0.035	2.000	7.60	0.967	0.622	7.35	6.37	6.23
MCH03518	0.3	0.035	2.250	7.60	1.083	0.694	6.51	6.37	5.51
MCH03519	0.3	0.035	2.500	7.60	1.199	0.765	5.84	6.37	4.95
MCH03801	0.3	0.038	0.375	9.03	0.228	0.179	61.45	7.67	52.61
MCH03802	0.3	0.038	0.438	9.03	0.260	0.201	50.75	7.67	43.45
MCH03803	0.3	0.038	0.500	9.03	0.292	0.222	43.33	7.67	37.10
MCH03804	0.3	0.038	0.563	9.03	0.324	0.244	37.73	7.67	32.30
MCH03805	0.3	0.038	0.625	9.03	0.355	0.265	33.46	7.67	28.65
MCH03806	0.3	0.038	0.688	9.03	0.387	0.287	30.02	7.67	25.70



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCH03807	0.3	0.038	0.750	9.03	0.419	0.308	27.26	7.67	23.34
MCH03808	0.3	0.038	0.813	9.03	0.451	0.330	24.93	7.67	21.34
MCH03809	0.3	0.038	0.875	9.03	0.482	0.351	22.99	7.67	19.69
MCH03810	0.3	0.038	0.938	9.03	0.514	0.373	21.31	7.67	18.25
MCH03811	0.3	0.038	1.000	9.03	0.546	0.395	19.88	7.67	17.02
MCH03812	0.3	0.038	1.125	9.03	0.609	0.438	17.51	7.67	15.00
MCH03813	0.3	0.038	1.250	9.03	0.673	0.481	15.65	7.67	13.40
MCH03814	0.3	0.038	1.375	9.03	0.737	0.524	14.14	7.67	12.11
MCH03815	0.3	0.038	1.500	9.03	0.800	0.567	12.90	7.67	11.05
MCH03816	0.3	0.038	1.750	9.03	0.927	0.653	10.98	7.67	9.40
MCH03817	0.3	0.038	2.000	9.03	1.054	0.739	9.55	7.67	8.18
MCH03818	0.3	0.038	2.250	9.03	1.182	0.825	8.45	7.67	7.24
MCH03819	0.3	0.038	2.500	9.03	1.309	0.912	7.58	7.67	6.49
MCH04001	0.3	0.040	0.375	10.41	0.237	0.191	75.44	8.84	64.63
MCH04002	0.3	0.040	0.438	10.41	0.271	0.215	62.17	8.84	53.26
MCH04003	0.3	0.040	0.500	10.41	0.304	0.238	52.99	8.84	45.40
MCH04004	0.3	0.040	0.563	10.41	0.337	0.262	46.08	8.84	39.48
MCH04005	0.3	0.040	0.625	10.41	0.370	0.285	40.84	8.84	34.98
MCH04006	0.3	0.040	0.688	10.41	0.404	0.309	36.61	8.84	31.36
MCH04007	0.3	0.040	0.750	10.41	0.437	0.332	33.22	8.84	28.46
MCH04008	0.3	0.040	0.813	10.41	0.470	0.356	30.36	8.84	26.01
MCH04009	0.3	0.040	0.875	10.41	0.503	0.379	28.00	8.84	23.98
MCH04010	0.3	0.040	0.938	10.41	0.537	0.403	25.94	8.84	22.22
MCH04011	0.3	0.040	1.000	10.41	0.570	0.426	24.19	8.84	20.72
MCH04012	0.3	0.040	1.125	10.41	0.636	0.473	21.30	8.84	18.25
MCH04013	0.3	0.040	1.250	10.41	0.703	0.520	19.02	8.84	16.30
MCH04014	0.3	0.040	1.375	10.41	0.769	0.567	17.19	8.84	14.72
MCH04015	0.3	0.040	1.500	10.41	0.836	0.614	15.67	8.84	13.43
MCH04016	0.3	0.040	1.750	10.41	0.969	0.708	13.33	8.84	11.42
MCH04017	0.3	0.040	2.000	10.41	1.102	0.803	11.59	8.84	9.93
MCH04018	0.3	0.040	2.250	10.41	1.235	0.897	10.26	8.84	8.79
MCH04019	0.3	0.040	2.500	10.41	1.368	0.991	9.20	8.84	7.88
MCH04201	0.3	0.042	0.375	11.96	0.246	0.202	92.37	10.14	79.14
MCH04202	0.3	0.042	0.438	11.96	0.281	0.228	75.94	10.14	65.05
MCH04203	0.3	0.042	0.500	11.96	0.315	0.253	64.62	10.14	55.36
MCH04204	0.3	0.042	0.563	11.96	0.350	0.279	56.12	10.14	48.08
MCH04205	0.3	0.042	0.625	11.96	0.384	0.304	49.69	10.14	42.57
MCH04206	0.3	0.042	0.688	11.96	0.419	0.330	44.51	10.14	38.13
MCH04207	0.3	0.042	0.750	11.96	0.454	0.355	40.36	10.14	34.58
MCH04208	0.3	0.042	0.813	11.96	0.489	0.381	36.87	10.14	31.59
MCH04209	0.3	0.042	0.875	11.96	0.523	0.406	33.98	10.14	29.11
MCH04210	0.3	0.042	0.938	11.96	0.558	0.432	31.48	10.14	26.97
MCH04211	0.3	0.042	1.000	11.96	0.593	0.457	29.35	10.14	25.14
MCH04212	0.3	0.042	1.125	11.96	0.662	0.508	25.82	10.14	22.12
MCH04213	0.3	0.042	1.250	11.96	0.731	0.559	23.05	10.14	19.75
MCH04214	0.3	0.042	1.375	11.96	0.801	0.609	20.82	10.14	17.84
MCH04215	0.3	0.042	1.500	11.96	0.870	0.660	18.98	10.14	16.26
MCH04216	0.3	0.042	1.750	11.96	1.009	0.762	16.14	10.14	13.82
MCH04217	0.3	0.042	2.000	11.96	1.148	0.864	14.03	10.14	12.02



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCH04218	0.3	0.042	2.250	11.96	1.287	0.965	12.41	10.14	10.63
MCH04219	0.3	0.042	2.500	11.96	1.425	1.067	11.13	10.14	9.53
MCH04501	0.3	0.045	0.375	14.48	0.258	0.219	123.85	12.24	106.08
MCH04502	0.3	0.045	0.438	14.48	0.295	0.248	101.43	12.24	86.87
MCH04503	0.3	0.045	0.500	14.48	0.332	0.276	86.09	12.24	73.74
MCH04504	0.3	0.045	0.563	14.48	0.369	0.304	74.63	12.24	63.92
MCH04505	0.3	0.045	0.625	14.48	0.406	0.332	65.98	12.24	56.51
MCH04506	0.3	0.045	0.688	14.48	0.443	0.361	59.03	12.24	50.56
MCH04507	0.3	0.045	0.750	14.48	0.479	0.389	53.48	12.24	45.81
MCH04508	0.3	0.045	0.813	14.48	0.516	0.418	48.82	12.24	41.82
MCH04509	0.3	0.045	0.875	14.48	0.553	0.446	44.97	12.24	38.51
MCH04510	0.3	0.045	0.938	14.48	0.590	0.474	41.63	12.24	35.65
MCH04511	0.3	0.045	1.000	14.48	0.627	0.502	38.79	12.24	33.22
MCH04512	0.3	0.045	1.125	14.48	0.701	0.559	34.10	12.24	29.21
MCH04513	0.3	0.045	1.250	14.48	0.774	0.616	30.43	12.24	26.06
MCH04514	0.3	0.045	1.375	14.48	0.848	0.672	27.47	12.24	23.53
MCH04515	0.3	0.045	1.500	14.48	0.922	0.729	25.03	12.24	21.44
MCH04516	0.3	0.045	1.750	14.48	1.069	0.842	21.26	12.24	18.21
MCH04517	0.3	0.045	2.000	14.48	1.217	0.956	18.48	12.24	15.83
MCH04518	0.3	0.045	2.250	14.48	1.364	1.069	16.34	12.24	14.00
MCH04519	0.3	0.045	2.500	14.48	1.512	1.182	14.65	12.24	12.54
MCH04701	0.3	0.047	0.375	17.32	0.263	0.226	154.63	14.62	132.37
MCH04702	0.3	0.047	0.438	17.32	0.301	0.255	126.31	14.62	108.13
MCH04703	0.3	0.047	0.500	17.32	0.338	0.284	107.02	14.62	91.62
MCH04704	0.3	0.047	0.563	17.32	0.376	0.314	92.65	14.62	79.31
MCH04705	0.3	0.047	0.625	17.32	0.413	0.343	81.83	14.62	70.05
MCH04706	0.3	0.047	0.688	17.32	0.451	0.372	73.15	14.62	62.62
MCH04707	0.3	0.047	0.750	17.32	0.489	0.401	66.24	14.62	56.70
MCH04708	0.3	0.047	0.813	17.32	0.526	0.431	60.43	14.62	51.73
MCH04709	0.3	0.047	0.875	17.32	0.564	0.460	55.64	14.62	47.63
MCH04710	0.3	0.047	0.938	17.32	0.602	0.489	51.48	14.62	44.07
MCH04711	0.3	0.047	1.000	17.32	0.639	0.518	47.96	14.62	41.06
MCH04712	0.3	0.047	1.125	17.32	0.714	0.577	42.15	14.62	36.08
MCH04713	0.3	0.047	1.250	17.32	0.789	0.636	37.59	14.62	32.18
MCH04714	0.3	0.047	1.375	17.32	0.864	0.694	33.92	14.62	29.04
MCH04715	0.3	0.047	1.500	17.32	0.940	0.753	30.90	14.62	26.46
MCH04716	0.3	0.047	1.750	17.32	1.090	0.870	26.24	14.62	22.46
MCH04717	0.3	0.047	2.000	17.32	1.240	0.987	22.80	14.62	19.52
MCH04718	0.3	0.047	2.250	17.32	1.391	1.104	20.15	14.62	17.25
MCH04719	0.3	0.047	2.500	17.32	1.541	1.221	18.06	14.62	15.46
MCH04720	0.3	0.047	2.750	17.32	1.691	1.338	16.36	14.62	14.00
MCH04721	0.3	0.047	3.000	17.32	1.842	1.456	14.95	14.62	12.80
MCH04901	0.3	0.049	0.375	19.47	0.271	0.236	186.44	16.59	160.46
MCH04902	0.3	0.049	0.438	19.47	0.310	0.267	151.90	16.59	130.73
MCH04903	0.3	0.049	0.500	19.47	0.348	0.298	128.47	16.59	110.57
MCH04904	0.3	0.049	0.563	19.47	0.388	0.329	111.06	16.59	95.59
MCH04905	0.3	0.049	0.625	19.47	0.426	0.360	98.00	16.59	84.34
MCH04906	0.3	0.049	0.688	19.47	0.466	0.391	87.53	16.59	75.34



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Stock Compression Springs

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MCH04907	0.3	0.049	0.750	19.47	0.504	0.422	79.21	16.59	68.17
MCH04908	0.3	0.049	0.813	19.47	0.543	0.454	72.23	16.59	62.16
MCH04909	0.3	0.049	0.875	19.47	0.582	0.484	66.47	16.59	57.20
MCH04910	0.3	0.049	0.938	19.47	0.621	0.516	61.48	16.59	52.91
MCH04911	0.3	0.049	1.000	19.47	0.660	0.546	57.26	16.59	49.28
MCH04912	0.3	0.049	1.125	19.47	0.738	0.609	50.29	16.59	43.28
MCH04913	0.3	0.049	1.250	19.47	0.816	0.671	44.83	16.59	38.58
MCH04914	0.3	0.049	1.375	19.47	0.893	0.733	40.44	16.59	34.81
MCH04915	0.3	0.049	1.500	19.47	0.971	0.795	36.84	16.59	31.70
MCH04916	0.3	0.049	1.750	19.47	1.127	0.919	31.26	16.59	26.91
MCH04917	0.3	0.049	2.000	19.47	1.283	1.044	27.15	16.59	23.37
MCH04918	0.3	0.049	2.250	19.47	1.439	1.168	24.00	16.59	20.65
MCH04919	0.3	0.049	2.500	19.47	1.594	1.292	21.50	16.59	18.50
MCH04920	0.3	0.049	2.750	19.47	1.750	1.417	19.47	16.59	16.76
MCH04921	0.3	0.049	3.000	19.47	1.906	1.541	17.80	16.59	15.32
MCH05101	0.3	0.051	0.375	21.66	0.278	0.246	223.44	18.63	193.31
MCH05102	0.3	0.051	0.438	21.66	0.319	0.279	181.55	18.63	157.07
MCH05103	0.3	0.051	0.500	21.66	0.359	0.312	153.27	18.63	132.60
MCH05104	0.3	0.051	0.563	21.66	0.399	0.345	132.32	18.63	114.48
MCH05105	0.3	0.051	0.625	21.66	0.439	0.377	116.64	18.63	100.91
MCH05106	0.3	0.051	0.688	21.66	0.480	0.411	104.10	18.63	90.06
MCH05107	0.3	0.051	0.750	21.66	0.520	0.443	94.14	18.63	81.44
MCH05108	0.3	0.051	0.813	21.66	0.561	0.476	85.79	18.63	74.23
MCH05109	0.3	0.051	0.875	21.66	0.601	0.509	78.91	18.63	68.27
MCH05110	0.3	0.051	0.938	21.66	0.641	0.542	72.97	18.63	63.13
MCH05111	0.3	0.051	1.000	21.66	0.681	0.575	67.93	18.63	58.77
MCH05112	0.3	0.051	1.125	21.66	0.762	0.641	59.63	18.63	51.59
MCH05113	0.3	0.051	1.250	21.66	0.842	0.707	53.14	18.63	45.97
MCH05114	0.3	0.051	1.375	21.66	0.923	0.772	47.92	18.63	41.46
MCH05115	0.3	0.051	1.500	21.66	1.004	0.838	43.63	18.63	37.75
MCH05116	0.3	0.051	1.750	21.66	1.165	0.970	37.01	18.63	32.02
MCH05117	0.3	0.051	2.000	21.66	1.326	1.102	32.14	18.63	27.81
MCH05118	0.3	0.051	2.250	21.66	1.487	1.233	28.40	18.63	24.57
MCH05119	0.3	0.051	2.500	21.66	1.649	1.365	25.44	18.63	22.01
MCH05120	0.3	0.051	2.750	21.66	1.810	1.497	23.04	18.63	19.93
MCH05121	0.3	0.051	3.000	21.66	1.971	1.628	21.05	18.63	18.21
MCH05501	0.3	0.055	0.500	25.26	0.381	0.342	212.48	21.96	184.77
MCH05502	0.3	0.055	0.563	25.26	0.425	0.379	182.93	21.96	159.07
MCH05503	0.3	0.055	0.625	25.26	0.468	0.416	160.91	21.96	139.92
MCH05504	0.3	0.055	0.688	25.26	0.512	0.453	143.37	21.96	124.67
MCH05505	0.3	0.055	0.750	25.26	0.555	0.490	129.48	21.96	112.59
MCH05506	0.3	0.055	0.813	25.26	0.599	0.527	117.88	21.96	102.50
MCH05507	0.3	0.055	0.875	25.26	0.642	0.564	108.33	21.96	94.20
MCH05508	0.3	0.055	1.000	25.26	0.729	0.638	93.11	21.96	80.97
MCH05509	0.3	0.055	1.125	25.26	0.816	0.713	81.64	21.96	71.00
MCH05510	0.3	0.055	1.250	25.26	0.903	0.787	72.69	21.96	63.21
MCH05511	0.3	0.055	1.500	25.26	1.076	0.935	59.62	21.96	51.84
MCH05512	0.3	0.055	1.750	25.26	1.250	1.084	50.53	21.96	43.94
MCH05513	0.3	0.055	2.000	25.26	1.424	1.232	43.85	21.96	38.13



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCH05514	0.3	0.055	2.250	25.26	1.598	1.380	38.72	21.96	33.67
MCH05515	0.3	0.055	2.500	25.26	1.772	1.529	34.67	21.96	30.15
MCI02201	0.36	0.022	0.375	1.36	0.150	0.076	6.06	1.17	5.21
MCI02202	0.36	0.022	0.438	1.36	0.171	0.082	5.09	1.17	4.38
MCI02203	0.36	0.022	0.500	1.36	0.191	0.088	4.40	1.17	3.78
MCI02204	0.36	0.022	0.563	1.36	0.211	0.094	3.87	1.17	3.32
MCI02205	0.36	0.022	0.625	1.36	0.231	0.100	3.45	1.17	2.97
MCI02206	0.36	0.022	0.688	1.36	0.251	0.106	3.12	1.17	2.68
MCI02207	0.36	0.022	0.750	1.36	0.271	0.111	2.84	1.17	2.44
MCI02208	0.36	0.022	0.813	1.36	0.291	0.118	2.61	1.17	2.24
MCI02209	0.36	0.022	0.875	1.36	0.311	1.230	2.41	1.17	2.08
MCI02210	0.36	0.022	0.938	1.36	0.332	0.129	2.24	1.17	1.93
MCI02211	0.36	0.022	1.000	1.36	0.352	1.350	2.10	1.17	1.80
MCI02212	0.36	0.022	1.125	1.36	0.392	0.147	1.86	1.17	1.60
MCI02213	0.36	0.022	1.250	1.36	0.432	0.159	1.66	1.17	1.43
MCI02214	0.36	0.022	1.375	1.36	0.472	0.171	1.51	1.17	1.30
MCI02215	0.36	0.022	1.500	1.36	0.512	0.183	1.38	1.17	1.18
MCI02216	0.36	0.022	1.750	1.36	0.593	0.207	1.18	1.17	1.01
MCI02217	0.36	0.022	2.000	1.36	0.673	0.231	1.03	1.17	0.88
MCI02218	0.36	0.022	2.250	1.36	0.754	0.255	0.91	1.17	0.78
MCI02600	0.36	0.026	0.375	2.60	0.161	0.090	12.14	2.23	10.45
MCI02601	0.36	0.026	0.438	2.60	0.182	0.097	10.16	2.23	8.74
MCI02602	0.36	0.026	0.500	2.60	0.203	0.104	8.75	2.23	7.53
MCI02603	0.36	0.026	0.563	2.60	0.225	0.112	7.67	2.23	6.60
MCI02604	0.36	0.026	0.625	2.60	0.245	0.119	6.84	2.23	5.89
MCI02605	0.36	0.026	0.688	2.60	0.267	0.126	6.16	2.23	5.31
MCI02606	0.36	0.026	0.750	2.60	0.288	1.340	5.62	2.23	4.83
MCI02607	0.36	0.026	0.813	2.60	0.309	0.141	5.15	2.23	4.43
MCI02608	0.36	0.026	0.875	2.60	0.330	0.148	4.76	2.23	4.10
MCI02609	0.36	0.026	0.938	2.60	0.351	0.156	4.42	2.23	3.81
MCI02610	0.36	0.026	1.000	2.60	0.372	0.163	4.14	2.23	3.56
MCI02611	0.36	0.026	1.125	2.60	0.414	0.177	3.65	2.23	3.14
MCI02612	0.36	0.026	1.250	2.60	0.457	0.192	3.27	2.23	2.82
MCI02613	0.36	0.026	1.375	2.60	0.499	0.207	2.96	2.23	2.55
MCI02614	0.36	0.026	1.500	2.60	0.541	0.221	2.71	2.23	2.33
MCI02615	0.36	0.026	1.750	2.60	0.625	0.251	2.31	2.23	1.99
MCI02616	0.36	0.026	2.000	2.60	0.710	0.280	2.01	2.23	1.73
MCI02617	0.36	0.026	2.250	2.60	0.794	0.309	1.78	2.23	1.54
MCI02900	0.36	0.029	0.375	3.56	0.172	0.104	17.53	3.04	15.01
MCI02901	0.36	0.029	0.438	3.56	0.195	0.114	14.62	3.04	12.52
MCI02902	0.36	0.029	0.500	3.56	0.217	0.123	12.51	3.04	10.77
MCI02903	0.36	0.029	0.563	3.56	0.240	0.132	11.00	3.04	9.42
MCI02904	0.36	0.029	0.625	3.56	0.262	0.141	9.80	3.04	8.39
MCI02905	0.36	0.029	0.688	3.56	0.285	0.150	8.82	3.04	7.55
MCI02906	0.36	0.029	0.750	3.56	0.307	0.159	8.03	3.04	6.88
MCI02907	0.36	0.029	0.813	3.56	0.330	0.168	7.36	3.04	6.30
MCI02908	0.36	0.029	0.875	3.56	0.352	0.178	6.80	3.04	5.82
MCI02909	0.36	0.029	0.938	3.56	0.375	0.187	6.31	3.04	5.41



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Stock Compression Springs

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	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCI02910	0.36	0.029	1.000	3.56	0.397	0.196	5.90	3.04	5.05
MCI02911	0.36	0.029	1.125	3.56	0.442	0.214	5.21	3.04	4.46
MCI02912	0.36	0.029	1.250	3.56	0.487	0.232	4.66	3.04	3.99
MCI02913	0.36	0.029	1.375	3.56	0.532	0.251	4.22	3.04	3.61
MCI02914	0.36	0.029	1.500	3.56	0.577	0.269	3.85	3.04	3.30
MCI02915	0.36	0.029	1.750	3.56	0.667	0.306	3.28	3.04	2.81
MCI02916	0.36	0.029	2.000	3.56	0.757	0.342	2.86	3.04	2.45
MCI02917	0.36	0.029	2.250	3.56	0.847	0.379	2.53	3.04	2.17
MCI03200	0.36	0.032	0.375	4.77	0.183	0.119	24.85	4.08	21.31
MCI03201	0.36	0.032	0.438	4.77	0.207	0.130	20.67	4.08	17.72
MCI03202	0.36	0.032	0.500	4.77	0.231	0.141	17.73	4.08	15.20
MCI03203	0.36	0.032	0.563	4.77	0.255	0.152	15.49	4.08	13.28
MCI03204	0.36	0.032	0.625	4.77	0.279	0.163	13.78	4.08	11.81
MCI03205	0.36	0.032	0.688	4.77	0.303	0.174	12.39	4.08	10.62
MCI03206	0.36	0.032	0.750	4.77	0.326	0.185	11.27	4.08	9.66
MCI03207	0.36	0.032	0.813	4.77	0.351	0.196	10.32	4.08	8.85
MCI03208	0.36	0.032	0.875	4.77	0.374	0.207	9.53	4.08	8.17
MCI03209	0.36	0.032	0.938	4.77	0.398	0.219	8.84	4.08	7.58
MCI03210	0.36	0.032	1.000	4.77	0.422	0.230	8.26	4.08	7.08
MCI03211	0.36	0.032	1.125	4.77	0.470	0.252	7.28	4.08	6.25
MCI03212	0.36	0.032	1.250	4.77	0.518	0.274	6.52	4.08	5.59
MCI03213	0.36	0.032	1.375	4.77	0.566	0.296	5.90	4.08	5.06
MCI03214	0.36	0.032	1.500	4.77	0.613	0.318	5.38	4.08	4.62
MCI03215	0.36	0.032	1.750	4.77	0.709	0.362	4.58	4.08	3.93
MCI03216	0.36	0.032	2.000	4.77	0.805	0.406	3.99	4.08	3.42
MCI03217	0.36	0.032	2.250	4.77	0.900	0.451	3.54	4.08	3.03
MCI03218	0.36	0.032	2.500	4.77	0.996	0.495	3.17	4.08	2.72
MCI03500	0.36	0.035	0.375	6.06	0.195	0.135	33.70	5.16	28.81
MCI03501	0.36	0.035	0.438	6.06	0.221	0.149	27.93	5.16	23.88
MCI03502	0.36	0.035	0.500	6.06	0.247	0.162	23.90	5.16	20.44
MCI03503	0.36	0.035	0.563	6.06	0.272	0.175	20.85	5.16	17.83
MCI03504	0.36	0.035	0.625	6.06	0.298	0.189	18.52	5.16	15.83
MCI03505	0.36	0.035	0.688	6.06	0.324	0.202	16.63	5.16	14.22
MCI03506	0.36	0.035	0.750	6.06	0.349	0.216	15.11	5.16	12.92
MCI03507	0.36	0.035	0.813	6.06	0.375	0.229	13.83	5.16	11.83
MCI03508	0.36	0.035	0.875	6.06	0.400	0.242	12.77	5.16	10.92
MCI03509	0.36	0.035	0.938	6.06	0.426	0.256	11.84	5.16	10.12
MCI03510	0.36	0.035	1.000	6.06	0.452	0.269	11.05	5.16	9.45
MCI03511	0.36	0.035	1.125	6.06	0.503	0.296	9.74	5.16	8.33
MCI03512	0.36	0.035	1.250	6.06	0.554	0.323	8.71	5.16	7.45
MCI03513	0.36	0.035	1.375	6.06	0.606	0.349	7.88	5.16	6.73
MCI03514	0.36	0.035	1.500	6.06	0.657	0.376	7.19	5.16	6.15
MCI03515	0.36	0.035	1.750	6.06	0.760	0.430	6.12	5.16	5.23
MCI03516	0.36	0.035	2.000	6.06	0.862	0.483	5.33	5.16	4.55
MCI03517	0.36	0.035	2.250	6.06	0.965	0.536	4.71	5.16	4.03
MCI03518	0.36	0.035	2.500	6.06	1.067	0.590	4.23	5.16	3.62
MCI03800	0.36	0.038	0.375	7.56	0.207	0.152	45.13	6.46	38.73
MCI03801	0.36	0.038	0.438	7.56	0.235	0.168	37.28	6.46	31.99



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCI03802	0.36	0.038	0.500	7.56	0.262	0.183	31.83	6.46	27.31
MCI03803	0.36	0.038	0.563	7.56	0.290	0.199	27.71	6.46	23.78
MCI03804	0.36	0.038	0.625	7.56	0.317	0.215	24.58	6.46	21.09
MCI03805	0.36	0.038	0.688	7.56	0.345	0.231	22.05	6.46	18.92
MCI03806	0.36	0.038	0.750	7.56	0.372	0.246	20.02	6.46	17.18
MCI03807	0.36	0.038	0.813	7.56	0.400	0.262	18.31	6.46	15.71
MCI03808	0.36	0.038	0.875	7.56	0.427	0.278	16.89	6.46	14.49
MCI03809	0.36	0.038	0.938	7.56	0.455	0.294	15.66	6.46	13.43
MCI03810	0.36	0.038	1.000	7.56	0.482	0.310	14.60	6.46	12.53
MCI03811	0.36	0.038	1.125	7.56	0.537	0.341	12.86	6.46	11.04
MCI03812	0.36	0.038	1.250	7.56	0.592	0.373	11.49	6.46	9.86
MCI03813	0.36	0.038	1.375	7.56	0.647	0.404	10.39	6.46	8.92
MCI03814	0.36	0.038	1.500	7.56	0.702	0.436	9.48	6.46	8.13
MCI03815	0.36	0.038	1.750	7.56	0.812	0.499	8.06	6.46	6.92
MCI03816	0.36	0.038	2.000	7.56	0.922	0.562	7.01	6.46	6.02
MCI03817	0.36	0.038	2.250	7.56	1.032	0.626	6.21	6.46	5.33
MCI03818	0.36	0.038	2.500	7.56	1.142	0.689	5.57	6.46	4.78
MCI04000	0.36	0.040	0.375	8.73	0.215	0.162	54.67	7.44	46.89
MCI04001	0.36	0.040	0.438	8.73	0.244	0.180	45.05	7.44	38.64
MCI04002	0.36	0.040	0.500	8.73	0.273	0.197	38.40	7.44	32.93
MCI04003	0.36	0.040	0.563	8.73	0.302	0.215	33.39	7.44	28.64
MCI04004	0.36	0.040	0.625	8.73	0.330	0.232	29.59	7.44	25.38
MCI04005	0.36	0.040	0.688	8.73	0.359	0.249	26.53	7.44	22.75
MCI04006	0.36	0.040	0.750	8.73	0.387	0.267	24.07	7.44	20.65
MCI04007	0.36	0.040	0.813	8.73	0.416	0.284	22.00	7.44	18.87
MCI04008	0.36	0.040	0.875	8.73	0.445	0.301	20.29	7.44	17.40
MCI04009	0.36	0.040	0.938	8.73	0.474	0.319	18.80	7.44	16.12
MCI04010	0.36	0.040	1.000	8.73	0.502	0.336	17.53	7.44	15.04
MCI04011	0.36	0.040	1.125	8.73	0.560	0.371	15.43	7.44	13.24
MCI04012	0.36	0.040	1.250	8.73	0.617	0.406	13.79	7.44	11.82
MCI04013	0.36	0.040	1.375	8.73	0.674	0.441	12.45	7.44	10.68
MCI04014	0.36	0.040	1.500	8.73	0.732	0.475	11.36	7.44	9.74
MCI04015	0.36	0.040	1.750	8.73	0.846	0.545	9.66	7.44	8.28
MCI04016	0.36	0.040	2.000	8.73	0.961	0.615	8.40	7.44	7.20
MCI04017	0.36	0.040	2.250	8.73	1.076	0.684	7.43	7.44	6.37
MCI04018	0.36	0.040	2.500	8.73	1.191	0.754	6.66	7.44	5.72
MCI04200	0.36	0.042	0.375	10.02	0.223	0.173	66.01	8.53	56.56
MCI04201	0.36	0.042	0.438	10.02	0.253	0.192	54.26	8.53	46.50
MCI04202	0.36	0.042	0.500	10.02	0.283	0.211	46.17	8.53	39.57
MCI04203	0.36	0.042	0.563	10.02	0.313	0.230	40.10	8.53	34.36
MCI04204	0.36	0.042	0.625	10.02	0.343	0.249	35.50	8.53	30.42
MCI04205	0.36	0.042	0.688	10.02	0.373	0.268	31.80	8.53	27.25
MCI04206	0.36	0.042	0.750	10.02	0.402	0.287	28.84	8.53	24.71
MCI04207	0.36	0.042	0.813	10.02	0.433	0.306	26.35	8.53	22.58
MCI04208	0.36	0.042	0.875	10.02	0.462	0.325	24.28	8.53	20.81
MCI04209	0.36	0.042	0.938	10.02	0.492	0.344	22.49	8.53	19.27
MCI04210	0.36	0.042	1.000	10.02	0.522	0.363	20.97	8.53	17.97
MCI04211	0.36	0.042	1.125	10.02	0.582	0.401	18.45	8.53	15.81
MCI04212	0.36	0.042	1.250	10.02	0.641	0.439	16.47	8.53	14.12



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MCI04213	0.36	0.042	1.375	10.02	0.701	0.477	14.88	8.53	12.75
MCI04214	0.36	0.042	1.500	10.02	0.761	0.515	13.57	8.53	11.62
MCI04215	0.36	0.042	1.750	10.02	0.881	0.591	11.53	8.53	9.88
MCI04216	0.36	0.042	2.000	10.02	1.000	0.667	10.03	8.53	8.59
MCI04217	0.36	0.042	2.250	10.02	1.120	0.743	8.87	8.53	7.60
MCI04218	0.36	0.042	2.500	10.02	1.239	0.819	7.95	8.53	6.81
MCI04500	0.36	0.045	0.375	12.15	0.235	0.188	86.63	10.35	74.31
MCI04501	0.36	0.045	0.438	12.15	0.267	0.210	70.95	10.35	60.85
MCI04502	0.36	0.045	0.500	12.15	0.298	0.231	60.22	10.35	51.65
MCI04503	0.36	0.045	0.563	12.15	0.330	0.253	52.20	10.35	44.77
MCI04504	0.36	0.045	0.625	12.15	0.362	0.274	46.15	10.35	39.58
MCI04505	0.36	0.045	0.688	12.15	0.394	0.296	41.29	10.35	35.41
MCI04506	0.36	0.045	0.750	12.15	0.425	0.317	37.41	10.35	32.09
MCI04507	0.36	0.045	0.813	12.15	0.457	0.339	34.15	10.35	29.29
MCI04508	0.36	0.045	0.875	12.15	0.489	0.360	31.45	10.35	26.98
MCI04509	0.36	0.045	0.938	12.15	0.521	0.381	29.12	10.35	24.97
MCI04510	0.36	0.045	1.000	12.15	0.552	0.403	27.13	10.35	23.27
MCI04511	0.36	0.045	1.125	12.15	0.616	0.446	23.86	10.35	20.46
MCI04512	0.36	0.045	1.250	12.15	0.679	0.489	21.29	10.35	18.26
MCI04513	0.36	0.045	1.375	12.15	0.743	0.532	19.21	10.35	16.48
MCI04514	0.36	0.045	1.500	12.15	0.806	0.575	17.51	10.35	15.02
MCI04515	0.36	0.045	1.750	12.15	0.933	0.661	14.87	10.35	12.76
MCI04516	0.36	0.045	2.000	12.15	1.060	0.747	12.93	10.35	11.09
MCI04517	0.36	0.045	2.250	12.15	1.187	0.832	11.43	10.35	9.80
MCI04518	0.36	0.045	2.500	12.15	1.314	0.918	10.25	10.35	8.79
MCI04519	0.36	0.045	2.750	12.15	1.441	1.004	9.28	10.35	7.96
MCI04901	0.36	0.049	0.438	17.69	0.276	0.222	109.07	14.36	90.86
MCI04902	0.36	0.049	0.500	17.69	0.308	0.244	92.25	14.36	76.84
MCI04903	0.36	0.049	0.563	17.69	0.341	0.267	79.75	14.36	66.43
MCI04904	0.36	0.049	0.625	17.69	0.374	0.290	70.37	14.36	58.62
MCI04905	0.36	0.049	0.688	17.69	0.407	0.313	62.85	14.36	52.36
MCI04906	0.36	0.049	0.750	17.69	0.439	0.335	56.88	14.36	47.38
MCI04907	0.36	0.049	0.813	17.69	0.472	0.358	51.86	14.36	43.20
MCI04908	0.36	0.049	0.875	17.69	0.504	0.381	47.73	14.36	39.76
MCI04909	0.36	0.049	0.938	17.69	0.537	0.404	44.15	14.36	36.77
MCI04910	0.36	0.049	1.000	17.69	0.570	0.426	41.11	14.36	34.25
MCI04911	0.36	0.049	1.125	17.69	0.635	0.472	36.11	14.36	30.08
MCI04912	0.36	0.049	1.250	17.69	0.701	0.517	32.19	14.36	26.82
MCI04913	0.36	0.049	1.375	17.69	0.766	0.563	29.04	14.36	24.19
MCI04914	0.36	0.049	1.500	17.69	0.831	0.608	26.45	14.36	22.03
MCI04915	0.36	0.049	1.750	17.69	0.962	0.699	22.45	14.36	18.70
MCI04916	0.36	0.049	2.000	17.69	1.093	0.790	19.50	14.36	16.24
MCI04917	0.36	0.049	2.250	17.69	1.224	0.881	17.23	14.36	14.35
MCI04918	0.36	0.049	2.500	17.69	1.354	0.972	15.44	14.36	12.86
MCI04919	0.36	0.049	2.750	17.69	1.485	1.063	13.98	14.36	11.65
MCI04920	0.36	0.049	3.000	17.69	1.616	1.154	12.78	14.36	10.64
MCI04921	0.36	0.049	3.250	17.69	1.747	1.245	11.77	14.36	9.80
MCI04922	0.36	0.049	3.500	17.69	1.877	1.336	10.90	14.36	9.08



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCI05501	0.36	0.055	0.438	23.74	0.302	0.256	174.24	19.59	147.23
MCI05502	0.36	0.055	0.500	23.74	0.338	0.284	146.54	19.59	123.83
MCI05503	0.36	0.055	0.563	23.74	0.375	0.312	126.16	19.59	106.60
MCI05504	0.36	0.055	0.625	23.74	0.411	0.340	110.97	19.59	93.77
MCI05505	0.36	0.055	0.688	23.74	0.448	0.368	98.88	19.59	83.55
MCI05506	0.36	0.055	0.750	23.74	0.484	0.396	89.30	19.59	75.46
MCI05507	0.36	0.055	0.813	23.74	0.521	0.424	81.30	19.59	68.69
MCI05508	0.36	0.055	0.875	23.74	0.557	0.451	74.71	19.59	63.13
MCI05509	0.36	0.055	0.938	23.74	0.594	0.479	69.02	19.59	58.32
MCI05510	0.36	0.055	1.000	23.74	0.630	0.507	64.21	19.59	54.26
MCI05511	0.36	0.055	1.125	23.74	0.703	0.563	56.31	19.59	47.58
MCI05512	0.36	0.055	1.250	23.74	0.776	0.619	50.13	19.59	42.36
MCI05513	0.36	0.055	1.375	23.74	0.850	0.674	45.18	19.59	38.18
MCI05514	0.36	0.055	1.500	23.74	0.923	0.730	41.12	19.59	34.74
MCI05515	0.36	0.055	1.750	23.74	1.069	0.842	34.85	19.59	29.45
MCI05516	0.36	0.055	2.000	23.74	1.215	0.953	30.24	19.59	25.55
MCI05517	0.36	0.055	2.250	23.74	1.361	1.065	26.71	19.59	22.57
MCI05518	0.36	0.055	2.500	23.74	1.507	1.176	23.91	19.59	20.21
MCI05519	0.36	0.055	2.750	23.74	1.653	1.288	21.65	19.59	18.29
MCI05520	0.36	0.055	3.000	23.74	1.800	1.399	19.78	19.59	16.71
MCI05521	0.36	0.055	3.250	23.74	1.946	1.511	18.20	19.59	15.38
MCI05522	0.36	0.055	3.500	23.74	2.092	1.623	16.86	19.59	14.25
MCI05901	0.36	0.059	0.438	28.80	0.317	0.277	237.75	24.12	202.89
MCI05902	0.36	0.059	0.500	28.80	0.355	0.307	199.17	24.12	169.96
MCI05903	0.36	0.059	0.563	28.80	0.395	0.338	170.97	24.12	145.90
MCI05904	0.36	0.059	0.625	28.80	0.433	0.369	150.06	24.12	128.06
MCI05905	0.36	0.059	0.688	28.80	0.472	0.400	133.48	24.12	113.90
MCI05906	0.36	0.059	0.750	28.80	0.511	0.431	120.38	24.12	102.73
MCI05907	0.36	0.059	0.813	28.80	0.550	0.462	109.47	24.12	93.42
MCI05908	0.36	0.059	0.875	28.80	0.588	0.493	100.50	24.12	85.77
MCI05909	0.36	0.059	0.938	28.80	0.628	0.524	92.78	24.12	79.18
MCI05910	0.36	0.059	1.000	28.80	0.666	0.555	86.26	24.12	73.61
MCI05911	0.36	0.059	1.125	28.80	0.744	0.617	75.55	24.12	64.47
MCI05912	0.36	0.059	1.250	28.80	0.822	0.679	67.21	24.12	57.35
MCI05913	0.36	0.059	1.375	28.80	0.899	0.741	60.53	24.12	51.65
MCI05914	0.36	0.059	1.500	28.80	0.977	0.803	55.05	24.12	46.98
MCI05915	0.36	0.059	1.750	28.80	1.132	0.926	46.62	24.12	39.78
MCI05916	0.36	0.059	2.000	28.80	1.288	1.050	40.43	24.12	34.50
MCI05917	0.36	0.059	2.250	28.80	1.443	1.174	35.69	24.12	30.45
MCI05918	0.36	0.059	2.500	28.80	1.598	1.298	31.94	24.12	27.26
MCI05919	0.36	0.059	2.750	28.80	1.754	1.422	28.91	24.12	24.67
MCI05920	0.36	0.059	3.000	28.80	1.909	1.546	26.40	24.12	22.53
MCI05921	0.36	0.059	3.250	28.80	2.065	1.669	24.29	24.12	20.73
MCI05922	0.36	0.059	3.500	28.80	2.220	1.793	22.50	24.12	19.20
MCI06701	0.36	0.067	0.500	34.23	0.398	0.364	335.50	28.32	286.50
MCI06702	0.36	0.067	0.625	34.23	0.488	0.443	250.09	28.32	213.56
MCI06703	0.36	0.067	0.750	34.23	0.578	0.521	199.34	28.32	170.23
MCI06704	0.36	0.067	0.875	34.23	0.668	0.600	165.71	28.32	141.51
MCI06705	0.36	0.067	1.000	34.23	0.759	0.678	141.79	28.32	121.09



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCI06706	0.36	0.067	1.125	34.23	0.849	0.757	123.91	28.32	105.81
MCI06707	0.36	0.067	1.250	34.23	0.939	0.835	110.03	28.32	93.96
MCI06708	0.36	0.067	1.500	34.23	1.119	0.992	89.89	28.32	76.76
MCI06709	0.36	0.067	1.750	34.23	1.300	1.149	75.99	28.32	64.89
MCI06710	0.36	0.067	2.000	34.23	1.480	1.307	65.81	28.32	56.20
MCI06711	0.36	0.067	2.250	34.23	1.660	1.464	58.03	28.32	49.56
MCI06712	0.36	0.067	2.500	34.23	1.841	1.621	51.90	28.32	44.32
MCI06713	0.36	0.067	2.750	34.23	2.021	1.778	46.94	28.32	40.08
MCI06714	0.36	0.067	3.000	34.23	2.201	1.935	42.85	28.32	36.59
MCJ04301	0.39	0.043	0.500	9.97	0.275	0.200	44.32	8.49	37.95
MCJ04302	0.39	0.043	0.563	9.97	0.304	0.217	38.47	8.49	32.94
MCJ04303	0.39	0.043	0.625	9.97	0.332	0.235	34.04	8.49	29.15
MCJ04304	0.39	0.043	0.688	9.97	0.361	0.252	30.48	8.49	26.10
MCJ04305	0.39	0.043	0.750	9.97	0.389	0.269	27.63	8.49	23.66
MCJ04306	0.39	0.043	0.813	9.97	0.418	0.286	25.24	8.49	21.61
MCJ04307	0.39	0.043	0.875	9.97	0.446	0.303	23.25	8.49	19.91
MCJ04308	0.39	0.043	0.938	9.97	0.475	0.321	21.54	8.49	18.44
MCJ04309	0.39	0.043	1.000	9.97	0.503	0.338	20.07	8.49	17.19
MCJ04310	0.39	0.043	1.125	9.97	0.561	0.372	17.66	8.49	15.12
MCJ04311	0.39	0.043	1.250	9.97	0.618	0.407	15.76	8.49	13.50
MCJ04312	0.39	0.043	1.375	9.97	0.675	0.441	14.23	8.49	12.19
MCJ04313	0.39	0.043	1.500	9.97	0.732	0.476	12.98	8.49	11.11
MCJ04314	0.39	0.043	1.750	9.97	0.846	0.545	11.03	8.49	9.44
MCJ04315	0.39	0.043	2.000	9.97	0.960	0.614	9.59	8.49	8.21
MCJ04701	0.39	0.047	0.500	12.78	0.294	0.226	62.10	10.88	53.23
MCJ04702	0.39	0.047	0.563	12.78	0.325	0.246	53.76	10.88	46.08
MCJ04703	0.39	0.047	0.625	12.78	0.356	0.266	47.48	10.88	40.70
MCJ04704	0.39	0.047	0.688	12.78	0.387	0.286	42.45	10.88	36.39
MCJ04705	0.39	0.047	0.750	12.78	0.417	0.307	38.44	10.88	32.95
MCJ04706	0.39	0.047	0.813	12.78	0.448	0.327	35.07	10.88	30.06
MCJ04707	0.39	0.047	0.875	12.78	0.479	0.347	32.28	10.88	27.67
MCJ04708	0.39	0.047	0.938	12.78	0.510	0.367	29.87	10.88	25.61
MCJ04709	0.39	0.047	1.000	12.78	0.541	0.388	27.83	10.88	23.86
MCJ04710	0.39	0.047	1.125	12.78	0.602	0.428	24.46	10.88	20.96
MCJ04711	0.39	0.047	1.250	12.78	0.664	0.469	21.81	10.88	18.70
MCJ04712	0.39	0.047	1.375	12.78	0.726	0.509	19.68	10.88	16.87
MCJ04713	0.39	0.047	1.500	12.78	0.787	0.550	17.93	10.88	15.37
MCJ04714	0.39	0.047	1.750	12.78	0.910	0.631	15.23	10.88	13.05
MCJ04715	0.39	0.047	2.000	12.78	1.034	0.712	13.23	10.88	11.34
MCK03501	0.42	0.035	0.500	5.20	0.229	0.139	19.19	4.44	16.44
MCK03502	0.42	0.035	0.625	5.20	0.275	0.159	14.87	4.44	12.74
MCK03503	0.42	0.035	0.750	5.20	0.322	0.179	12.14	4.44	10.39
MCK03504	0.42	0.035	0.875	5.20	0.368	0.199	10.25	4.44	8.78
MCK03505	0.42	0.035	1.000	5.20	0.414	0.219	8.87	4.44	7.60
MCK03506	0.42	0.035	1.250	5.20	0.507	0.259	6.99	4.44	5.99
MCK03507	0.42	0.035	1.500	5.20	0.599	0.299	5.77	4.44	4.94
MCK03508	0.42	0.035	1.750	5.20	0.692	0.339	4.91	4.44	4.21
MCK03509	0.42	0.035	2.000	5.20	0.785	0.379	4.28	4.44	3.66



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCK03510	0.42	0.035	2.250	5.20	0.877	0.419	3.79	4.44	3.24
MCK03511	0.42	0.035	2.500	5.20	0.970	0.460	3.40	4.44	2.91
MCK03801	0.42	0.038	0.500	6.52	0.243	0.157	25.32	5.58	21.73
MCK03802	0.42	0.038	0.625	6.52	0.292	0.180	19.56	5.58	16.78
MCK03803	0.42	0.038	0.750	6.52	0.341	0.204	15.93	5.58	13.67
MCK03804	0.42	0.038	0.875	6.52	0.390	0.228	13.44	5.58	11.53
MCK03805	0.42	0.038	1.000	6.52	0.439	0.252	11.62	5.58	9.97
MCK03806	0.42	0.038	1.250	6.52	0.537	0.299	9.15	5.58	7.85
MCK03807	0.42	0.038	1.500	6.52	0.635	0.347	7.54	5.58	6.47
MCK03808	0.42	0.038	1.750	6.52	0.733	0.395	6.41	5.58	5.50
MCK03809	0.42	0.038	2.000	6.52	0.832	0.442	5.58	5.58	4.79
MCK03810	0.42	0.038	2.250	6.52	0.930	0.490	4.94	5.58	4.24
MCK03811	0.42	0.038	2.500	6.52	1.028	0.537	4.43	5.58	3.80
MCK04201	0.42	0.042	0.500	8.64	0.260	0.181	36.04	7.37	30.89
MCK04202	0.42	0.042	0.625	8.64	0.313	0.210	27.71	7.37	23.75
MCK04203	0.42	0.042	0.750	8.64	0.366	0.239	22.51	7.37	19.29
MCK04204	0.42	0.042	0.875	8.64	0.419	0.268	18.96	7.37	16.25
MCK04205	0.42	0.042	1.000	8.64	0.472	0.297	16.37	7.37	14.03
MCK04206	0.42	0.042	1.250	8.64	0.578	0.355	12.86	7.37	11.02
MCK04207	0.42	0.042	1.500	8.64	0.684	0.412	10.59	7.37	9.08
MCK04208	0.42	0.042	1.750	8.64	0.790	0.470	9.00	7.37	7.71
MCK04209	0.42	0.042	2.000	8.64	0.896	0.528	7.83	7.37	6.71
MCK04210	0.42	0.042	2.250	8.64	1.002	0.586	6.92	7.37	5.93
MCK04211	0.42	0.042	2.500	8.64	1.108	0.644	6.21	7.37	5.32
MCK04501	0.42	0.045	0.500	10.46	0.274	0.199	46.29	8.92	39.69
MCK04502	0.42	0.045	0.625	10.46	0.330	0.232	35.47	8.92	30.42
MCK04503	0.42	0.045	0.750	10.46	0.386	0.265	28.75	8.92	24.66
MCK04504	0.42	0.045	0.875	10.46	0.442	0.298	24.18	8.92	20.73
MCK04505	0.42	0.045	1.000	10.46	0.498	0.331	20.85	8.92	17.88
MCK04506	0.42	0.045	1.250	10.46	0.611	0.397	16.36	8.92	14.03
MCK04507	0.42	0.045	1.500	10.46	0.723	0.464	13.46	8.92	11.54
MCK04508	0.42	0.045	1.750	10.46	0.835	0.530	11.43	8.92	9.80
MCK04509	0.42	0.045	2.000	10.46	0.947	0.596	9.94	8.92	8.52
MCK04510	0.42	0.045	2.250	10.46	1.059	0.663	8.79	8.92	7.53
MCK04511	0.42	0.045	2.500	10.46	1.172	0.729	7.87	8.92	6.75
MCK04801	0.42	0.048	0.500	12.55	0.287	0.217	59.02	10.68	50.58
MCK04802	0.42	0.048	0.625	12.55	0.347	0.254	45.07	10.68	38.63
MCK04803	0.42	0.048	0.750	12.55	0.406	0.291	36.46	10.68	31.24
MCK04804	0.42	0.048	0.875	12.55	0.465	0.328	30.61	10.68	26.23
MCK04805	0.42	0.048	1.000	12.55	0.524	0.366	26.38	10.68	22.60
MCK04806	0.42	0.048	1.250	12.55	0.643	0.440	20.66	10.68	17.71
MCK04807	0.42	0.048	1.500	12.55	0.761	0.515	16.98	10.68	14.55
MCK04808	0.42	0.048	1.750	12.55	0.880	0.590	14.42	10.68	12.35
MCK04809	0.42	0.048	2.000	12.55	0.998	0.664	12.52	10.68	10.73
MCK04810	0.42	0.048	2.250	12.55	1.117	0.739	11.07	10.68	9.49
MCK04811	0.42	0.048	2.500	12.55	1.235	0.813	9.92	10.68	8.50



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Stock Compression Springs

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	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCK05101	0.42	0.051	0.500	14.86	0.301	0.234	74.59	12.65	63.96
MCK05102	0.42	0.051	0.625	14.86	0.363	0.276	56.76	12.65	48.67
MCK05103	0.42	0.051	0.750	14.86	0.426	0.317	45.81	12.65	39.28
MCK05104	0.42	0.051	0.875	14.86	0.488	0.359	38.40	12.65	32.93
MCK05105	0.42	0.051	1.000	14.86	0.550	0.401	33.06	12.65	28.35
MCK05106	0.42	0.051	1.250	14.86	0.675	0.484	25.86	12.65	22.17
MCK05107	0.42	0.051	1.500	14.86	0.800	0.567	21.24	12.65	18.21
MCK05108	0.42	0.051	1.750	14.86	0.925	0.650	18.01	12.65	15.45
MCK05109	0.42	0.051	2.000	14.86	1.050	0.733	15.64	12.65	13.41
MCK05110	0.42	0.051	2.250	14.86	1.175	0.816	13.82	12.65	11.85
MCK05111	0.42	0.051	2.500	14.86	1.300	0.899	12.38	12.65	10.62
MCK05501	0.42	0.055	0.500	18.43	0.318	0.257	101.14	15.64	86.65
MCK05502	0.42	0.055	0.625	18.43	0.384	0.304	76.59	15.64	65.62
MCK05503	0.42	0.055	0.750	18.43	0.451	0.351	61.63	15.64	52.81
MCK05504	0.42	0.055	0.875	18.43	0.518	0.399	51.56	15.64	44.18
MCK05505	0.42	0.055	1.000	18.43	0.584	0.446	44.32	15.64	37.97
MCK05506	0.42	0.055	1.250	18.43	0.717	0.540	34.60	15.64	29.65
MCK05507	0.42	0.055	1.500	18.43	0.851	0.634	28.38	15.64	24.31
MCK05508	0.42	0.055	1.750	18.43	0.984	0.729	24.05	15.64	20.61
MCK05509	0.42	0.055	2.000	18.43	1.117	0.823	20.87	15.64	17.88
MCK05510	0.42	0.055	2.250	18.43	1.250	0.917	18.43	15.64	15.79
MCK05511	0.42	0.055	2.500	18.43	1.384	1.011	16.50	15.64	14.14
MCK05901	0.42	0.059	0.500	22.64	0.334	0.278	136.21	19.10	116.38
MCK05902	0.42	0.059	0.625	22.64	0.404	0.331	102.63	19.10	87.69
MCK05903	0.42	0.059	0.750	22.64	0.475	0.383	82.33	19.10	70.34
MCK05904	0.42	0.059	0.875	22.64	0.546	0.436	68.73	19.10	58.73
MCK05905	0.42	0.059	1.000	22.64	0.616	0.488	58.99	19.10	50.41
MCK05906	0.42	0.059	1.250	22.64	0.757	0.593	45.96	19.10	39.27
MCK05907	0.42	0.059	1.500	22.64	0.899	0.698	37.65	19.10	32.17
MCK05908	0.42	0.059	1.750	22.64	1.040	0.803	31.88	19.10	27.24
MCK05909	0.42	0.059	2.000	22.64	1.181	0.908	27.65	19.10	23.62
MCK05910	0.42	0.059	2.250	22.64	1.322	1.013	24.41	19.10	20.85
MCK05911	0.42	0.059	2.500	22.64	1.464	1.118	21.84	19.10	18.66
MCK06301	0.42	0.063	0.500	26.92	0.350	0.300	179.81	22.78	154.10
MCK06302	0.42	0.063	0.625	26.92	0.425	0.359	134.76	22.78	115.50
MCK06303	0.42	0.063	0.750	26.92	0.500	0.417	107.77	22.78	92.36
MCK06304	0.42	0.063	0.875	26.92	0.575	0.475	89.78	22.78	76.95
MCK06305	0.42	0.063	1.000	26.92	0.650	0.534	76.94	22.78	65.94
MCK06306	0.42	0.063	1.250	26.92	0.800	0.650	59.83	22.78	51.27
MCK06307	0.42	0.063	1.500	26.92	0.950	0.767	48.94	22.78	41.95
MCK06308	0.42	0.063	1.750	26.92	1.100	0.883	41.41	22.78	35.49
MCK06309	0.42	0.063	2.000	26.92	1.250	1.000	35.88	22.78	30.75
MCK06310	0.42	0.063	2.250	26.92	1.400	1.116	31.66	22.78	27.13
MCK06311	0.42	0.063	2.500	26.92	1.550	1.233	28.33	22.78	24.28
MCK06701	0.42	0.067	0.750	33.49	0.518	0.440	144.13	28.15	123.22
MCK06702	0.42	0.067	1.000	33.49	0.673	0.564	102.52	28.15	87.65
MCK06703	0.42	0.067	1.250	33.49	0.829	0.689	79.55	28.15	68.01



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCK06704	0.42	0.067	1.500	33.49	0.985	0.813	64.99	28.15	55.57
MCK06705	0.42	0.067	1.750	33.49	1.140	0.937	54.94	28.15	46.97
MCK06706	0.42	0.067	2.000	33.49	1.296	1.061	47.58	28.15	40.68
MCK06707	0.42	0.067	2.500	33.49	1.607	1.310	37.52	28.15	32.08
MCK07201	0.42	0.072	0.750	39.74	0.548	0.480	196.35	32.88	167.06
MCK07202	0.42	0.072	1.000	39.74	0.714	0.619	139.00	32.88	118.27
MCK07203	0.42	0.072	1.250	39.74	0.881	0.757	107.58	32.88	91.53
MCK07204	0.42	0.072	1.500	39.74	1.047	0.896	87.75	32.88	74.66
MCK07205	0.42	0.072	1.750	39.74	1.214	1.035	74.09	32.88	63.04
MCK07206	0.42	0.072	2.000	39.74	1.380	1.173	64.11	32.88	54.55
MCK07207	0.42	0.072	2.500	39.74	1.713	1.451	50.50	32.88	42.97
MCL03901	0.455	0.039	0.500	6.51	0.238	0.151	24.85	5.55	21.26
MCL03902	0.455	0.039	0.625	6.51	0.285	0.172	19.17	5.55	16.40
MCL03903	0.455	0.039	0.750	6.51	0.333	0.193	15.60	5.55	13.35
MCL03904	0.455	0.039	0.875	6.51	0.380	0.215	13.16	5.55	11.26
MCL03905	0.455	0.039	1.000	6.51	0.427	0.236	11.37	5.55	9.73
MCL03906	0.455	0.039	1.250	6.51	0.522	0.279	8.95	5.55	7.66
MCL03907	0.455	0.039	1.500	6.51	0.617	0.322	7.37	5.55	6.31
MCL03908	0.455	0.039	1.750	6.51	0.711	0.365	6.27	5.55	5.37
MCL03909	0.455	0.039	2.000	6.51	0.806	0.408	5.46	5.55	4.67
MCL04601	0.455	0.046	0.500	10.34	0.267	0.189	44.39	8.81	38.03
MCL04602	0.455	0.046	0.625	10.34	0.321	0.219	33.98	8.81	29.11
MCL04603	0.455	0.046	0.750	10.34	0.374	0.249	27.53	8.81	23.58
MCL04604	0.455	0.046	0.875	10.34	0.428	0.279	23.13	8.81	19.81
MCL04605	0.455	0.046	1.000	10.34	0.482	0.309	19.95	8.81	17.09
MCL04606	0.455	0.046	1.250	10.34	0.589	0.369	15.64	8.81	13.40
MCL04607	0.455	0.046	1.500	10.34	0.696	0.428	12.86	8.81	11.02
MCL04608	0.455	0.046	1.750	10.34	0.804	0.488	10.92	8.81	9.36
MCL04609	0.455	0.046	2.000	10.34	0.911	0.548	9.49	8.81	8.13
MCM03201	0.48	0.032	0.500	2.55	0.218	0.123	9.02	2.16	7.66
MCM03202	0.48	0.032	0.625	2.55	0.262	0.141	7.01	2.16	5.95
MCM03203	0.48	0.032	0.750	2.55	0.306	0.158	5.73	2.16	4.87
MCM03204	0.48	0.032	0.875	2.55	0.350	0.175	4.85	2.16	4.12
MCM03205	0.48	0.032	1.000	2.55	0.394	0.192	4.20	2.16	3.57
MCM03206	0.48	0.032	1.250	2.55	0.482	0.226	3.32	2.16	2.82
MCM03207	0.48	0.032	1.500	2.55	0.570	0.260	2.74	2.16	2.33
MCM03208	0.48	0.032	1.750	2.55	0.658	0.294	2.33	2.16	1.98
MCM03209	0.48	0.032	2.000	2.55	0.746	0.328	2.03	2.16	1.73
MCM03210	0.48	0.032	2.250	2.55	0.834	0.362	1.80	2.16	1.53
MCM03211	0.48	0.032	2.500	2.55	0.922	0.396	1.61	2.16	1.37
MCM03212	0.48	0.032	3.000	2.55	1.098	0.464	1.34	2.16	1.14
MCM03501	0.48	0.035	0.500	4.42	0.218	0.125	15.70	3.15	11.51
MCM03502	0.48	0.035	0.625	4.42	0.262	0.140	12.16	3.15	8.92
MCM03503	0.48	0.035	0.750	4.42	0.305	0.156	9.93	3.15	7.28
MCM03504	0.48	0.035	0.875	4.42	0.348	0.172	8.38	3.15	6.15
MCM03505	0.48	0.035	1.000	4.42	0.391	0.188	7.26	3.15	5.32



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCM03506	0.48	0.035	1.250	4.42	0.477	0.220	5.72	3.15	4.19
MCM03507	0.48	0.035	1.500	4.42	0.564	0.252	4.72	3.15	3.46
MCM03508	0.48	0.035	1.750	4.42	0.650	0.283	4.02	3.15	2.95
MCM03509	0.48	0.035	2.000	4.42	0.736	0.315	3.50	3.15	2.56
MCM03510	0.48	0.035	2.250	4.42	0.823	0.347	3.10	3.15	2.27
MCM03511	0.48	0.035	2.500	4.42	0.909	0.378	2.78	3.15	2.04
MCM03512	0.48	0.035	3.000	4.42	1.081	0.442	2.30	3.15	1.69
MCM03801	0.48	0.038	0.500	5.71	0.229	0.139	21.10	4.89	18.10
MCM03802	0.48	0.038	0.625	5.71	0.274	0.157	16.30	4.89	14.00
MCM03803	0.48	0.038	0.750	5.71	0.319	0.176	13.30	4.89	11.40
MCM03804	0.48	0.038	0.875	5.71	0.364	0.194	11.20	4.89	9.60
MCM03805	0.48	0.038	1.000	5.71	0.409	0.212	9.70	4.89	8.30
MCM03806	0.48	0.038	1.250	5.71	0.500	0.249	7.60	4.89	6.50
MCM03807	0.48	0.038	1.500	5.71	0.590	0.286	6.30	4.89	5.40
MCM03808	0.48	0.038	1.750	5.71	0.680	0.323	5.30	4.89	4.60
MCM03809	0.48	0.038	2.000	5.71	0.770	0.360	4.60	4.89	4.00
MCM03810	0.48	0.038	2.250	5.71	0.860	0.397	4.10	4.89	3.40
MCM03811	0.48	0.038	2.500	5.71	0.951	0.434	3.70	4.89	3.10
MCM03812	0.48	0.038	2.750	5.71	1.041	0.471	3.30	4.89	2.70
MCM03813	0.48	0.038	3.000	5.71	1.131	0.508	3.10	4.89	2.60
MCM04201	0.48	0.042	0.500	7.58	0.245	0.159	29.70	6.50	25.50
MCM04202	0.48	0.042	0.625	7.58	0.293	0.182	22.80	6.50	19.60
MCM04203	0.48	0.042	0.750	7.58	0.341	0.205	18.50	6.50	15.90
MCM04204	0.48	0.042	0.875	7.58	0.389	0.227	15.60	6.50	13.40
MCM04205	0.48	0.042	1.000	7.58	0.437	0.250	13.50	6.50	11.60
MCM04206	0.48	0.042	1.250	7.58	0.534	0.295	10.60	6.50	9.10
MCM04207	0.48	0.042	1.500	7.58	0.630	0.341	8.70	6.50	7.50
MCM04208	0.48	0.042	1.750	7.58	0.727	0.386	7.40	6.50	6.40
MCM04209	0.48	0.042	2.000	7.58	0.823	0.431	6.40	6.50	5.50
MCM04210	0.48	0.042	2.250	7.58	0.920	0.476	5.70	6.50	4.90
MCM04211	0.48	0.042	2.500	7.58	1.016	0.522	5.10	6.50	4.40
MCM04212	0.48	0.042	2.750	7.58	1.113	0.567	4.60	6.50	4.00
MCM04213	0.48	0.042	3.000	7.58	1.209	0.612	4.20	6.50	3.60
MCM04501	0.48	0.045	0.500	9.19	0.257	0.175	37.80	7.85	32.40
MCM04502	0.48	0.045	0.625	9.19	0.307	0.201	28.90	7.85	24.80
MCM04503	0.48	0.045	0.750	9.19	0.358	0.227	23.50	7.85	20.10
MCM04504	0.48	0.045	0.875	9.19	0.409	0.253	19.70	7.85	16.90
MCM04505	0.48	0.045	1.000	9.19	0.460	0.279	17.00	7.85	14.60
MCM04506	0.48	0.045	1.250	9.19	0.561	0.331	13.30	7.85	11.40
MCM04507	0.48	0.045	1.500	9.19	0.663	0.383	11.00	7.85	9.40
MCM04508	0.48	0.045	1.750	9.19	0.764	0.436	9.30	7.85	8.00
MCM04509	0.48	0.045	2.000	9.19	0.866	0.488	8.10	7.85	7.00
MCM04510	0.48	0.045	2.250	9.19	0.967	0.540	7.20	7.85	6.10
MCM04511	0.48	0.045	2.500	9.19	1.069	0.592	6.40	7.85	5.50
MCM04512	0.48	0.045	2.750	9.19	1.170	0.644	5.80	7.85	5.00
MCM04513	0.48	0.045	3.000	9.19	1.272	0.696	5.30	7.85	4.60
MCM05101	0.48	0.051	0.500	13.08	0.281	0.207	59.60	11.17	51.10



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MCM05102	0.48	0.051	0.625	13.08	0.337	0.241	45.30	11.17	38.90
MCM05103	0.48	0.051	0.750	13.08	0.393	0.274	36.60	11.17	31.40
MCM05104	0.48	0.051	0.875	13.08	0.449	0.307	30.70	11.17	26.30
MCM05105	0.48	0.051	1.000	13.08	0.505	0.340	26.40	11.17	22.70
MCM05106	0.48	0.051	1.250	13.08	0.617	0.406	20.70	11.17	17.70
MCM05107	0.48	0.051	1.500	13.08	0.729	0.472	17.00	11.17	14.60
MCM05108	0.48	0.051	1.750	13.08	0.841	0.538	14.40	11.17	12.40
MCM05109	0.48	0.051	2.000	13.08	0.954	0.605	12.50	11.17	10.70
MCM05110	0.48	0.051	2.250	13.08	1.066	0.671	11.00	11.17	9.50
MCM05111	0.48	0.051	2.500	13.08	1.178	0.737	9.90	11.17	8.50
MCM05112	0.48	0.051	2.750	13.08	1.290	0.803	9.00	11.17	7.70
MCM05113	0.48	0.051	3.000	13.08	1.402	0.870	8.20	11.17	7.00
MCM05501	0.48	0.055	0.500	16.20	0.296	0.228	79.50	13.80	68.20
MCM05502	0.48	0.055	0.625	16.20	0.356	0.266	60.20	13.80	51.60
MCM05503	0.48	0.055	0.750	16.20	0.416	0.304	48.50	13.80	41.50
MCM05504	0.48	0.055	0.875	16.20	0.476	0.342	40.50	13.80	34.80
MCM05505	0.48	0.055	1.000	16.20	0.535	0.380	34.90	13.80	29.90
MCM05506	0.48	0.055	1.250	16.20	0.655	0.456	27.20	13.80	23.30
MCM05507	0.48	0.055	1.500	16.20	0.774	0.532	22.30	13.80	19.10
MCM05508	0.48	0.055	1.750	16.20	0.894	0.608	18.90	13.80	16.20
MCM05509	0.48	0.055	2.000	16.20	1.013	0.684	16.40	13.80	14.10
MCM05510	0.48	0.055	2.250	16.20	1.133	0.760	14.50	13.80	12.40
MCM05511	0.48	0.055	2.500	16.20	1.252	0.836	13.00	13.80	11.10
MCM05512	0.48	0.055	2.750	16.20	1.372	0.912	11.70	13.80	10.10
MCM05513	0.48	0.055	3.000	16.20	1.491	0.988	10.70	13.80	9.20
MCM05901	0.48	0.059	0.500	19.68	0.312	0.249	104.70	16.64	89.80
MCM05902	0.48	0.059	0.625	19.68	0.376	0.293	78.90	16.64	67.60
MCM05903	0.48	0.059	0.750	19.68	0.439	0.336	63.30	16.64	54.30
MCM05904	0.48	0.059	0.875	19.68	0.503	0.379	52.90	16.64	45.30
MCM05905	0.48	0.059	1.000	19.68	0.566	0.422	45.40	16.64	38.90
MCM05906	0.48	0.059	1.250	19.68	0.693	0.508	35.30	16.64	30.30
MCM05907	0.48	0.059	1.500	19.68	0.820	0.594	29.00	16.64	24.80
MCM05908	0.48	0.059	1.750	19.68	0.947	0.680	24.50	16.64	21.00
MCM05909	0.48	0.059	2.000	19.68	1.074	0.766	21.30	16.64	18.20
MCM05910	0.48	0.059	2.250	19.68	1.201	0.852	18.80	16.64	16.10
MCM05911	0.48	0.059	2.500	19.68	1.328	0.938	16.80	16.64	14.40
MCM05912	0.48	0.059	2.750	19.68	1.456	1.024	15.20	16.64	13.00
MCM05913	0.48	0.059	3.000	19.68	1.583	1.110	13.90	16.64	11.90
MCM06301	0.48	0.063	0.500	23.67	0.327	0.270	137.00	20.11	117.40
MCM06302	0.48	0.063	0.625	23.67	0.394	0.318	102.70	20.11	88.00
MCM06303	0.48	0.063	0.750	23.67	0.462	0.366	82.10	20.11	70.40
MCM06304	0.48	0.063	0.875	23.67	0.529	0.414	68.40	20.11	58.60
MCM06305	0.48	0.063	1.000	23.67	0.596	0.462	58.60	20.11	50.20
MCM06306	0.48	0.063	1.250	23.67	0.731	0.558	45.60	20.11	39.10
MCM06307	0.48	0.063	1.500	23.67	0.865	0.654	37.30	20.11	32.00
MCM06308	0.48	0.063	1.750	23.67	1.000	0.750	31.50	20.11	27.00
MCM06309	0.48	0.063	2.000	23.67	1.134	0.846	27.30	20.11	23.40
MCM06310	0.48	0.063	2.250	23.67	1.269	0.942	24.10	20.11	20.70



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCM06311	0.48	0.063	2.500	23.67	1.403	1.038	21.60	20.11	18.50
MCM06312	0.48	0.063	2.750	23.67	1.538	1.134	19.50	20.11	16.70
MCM06313	0.48	0.063	3.000	23.67	1.672	1.230	17.80	20.11	15.30
MCM06701	0.48	0.067	0.500	27.94	0.342	0.290	177.10	23.69	151.80
MCM06702	0.48	0.067	0.625	27.94	0.413	0.343	132.00	23.69	113.10
MCM06703	0.48	0.067	0.750	27.94	0.484	0.396	105.20	23.69	90.20
MCM06704	0.48	0.067	0.875	27.94	0.556	0.449	87.50	23.69	75.00
MCM06705	0.48	0.067	1.000	27.94	0.627	0.502	74.80	23.69	64.10
MCM06706	0.48	0.067	1.250	27.94	0.769	0.608	58.10	23.69	49.80
MCM06707	0.48	0.067	1.500	27.94	0.911	0.715	47.40	23.69	40.70
MCM06708	0.48	0.067	1.750	27.94	1.053	0.821	40.10	23.69	34.40
MCM06709	0.48	0.067	2.000	27.94	1.195	0.927	34.70	23.69	29.80
MCM06710	0.48	0.067	2.250	27.94	1.338	1.034	30.60	23.69	26.20
MCM06711	0.48	0.067	2.500	27.94	1.480	1.140	27.40	23.69	23.50
MCM06712	0.48	0.067	2.750	27.94	1.622	1.246	24.80	23.69	21.20
MCM06713	0.48	0.067	3.000	27.94	1.764	1.352	22.60	23.69	19.40
MCM07201	0.48	0.072	0.500	36.82	0.354	0.306	252.90	30.01	212.40
MCM07202	0.48	0.072	0.625	36.82	0.428	0.363	187.20	30.01	157.20
MCM07203	0.48	0.072	0.750	36.82	0.502	0.420	148.60	30.01	124.80
MCM07204	0.48	0.072	0.875	36.82	0.576	0.476	123.20	30.01	103.40
MCM07205	0.48	0.072	1.000	36.82	0.650	0.533	105.20	30.01	88.30
MCM07206	0.48	0.072	1.250	36.82	0.798	0.647	81.40	30.01	68.40
MCM07207	0.48	0.072	1.500	36.82	0.946	0.761	66.40	30.01	55.80
MCM07208	0.48	0.072	1.750	36.82	1.093	0.874	56.10	30.01	47.10
MCM07209	0.48	0.072	2.000	36.82	1.241	0.988	48.50	30.01	40.70
MCM07210	0.48	0.072	2.250	36.82	1.389	1.102	42.80	30.01	35.90
MCM07211	0.48	0.072	2.500	36.82	1.537	1.216	38.20	30.01	32.10
MCM07212	0.48	0.072	2.750	36.82	1.684	1.329	34.60	30.01	29.00
MCM07213	0.48	0.072	3.000	36.82	1.832	1.443	31.50	30.01	26.50
MCM07214	0.48	0.072	3.250	36.82	1.980	1.557	29.00	30.01	24.30
MCM07215	0.48	0.072	3.500	36.82	2.128	1.670	26.80	30.01	22.50
MCM07601	0.48	0.076	0.500	39.71	0.372	0.330	311.00	31.53	258.90
MCM07602	0.48	0.076	0.625	39.71	0.451	0.394	228.80	31.53	190.50
MCM07603	0.48	0.076	0.750	39.71	0.531	0.457	181.00	31.53	150.70
MCM07604	0.48	0.076	0.875	39.71	0.610	0.521	149.70	31.53	124.60
MCM07605	0.48	0.076	1.000	39.71	0.689	0.585	127.60	31.53	106.30
MCM07606	0.48	0.076	1.250	39.71	0.847	0.713	98.60	31.53	82.10
MCM07607	0.48	0.076	1.500	39.71	1.005	0.840	80.30	31.53	66.80
MCM07608	0.48	0.076	1.750	39.71	1.164	0.968	67.70	31.53	56.40
MCM07609	0.48	0.076	2.000	39.71	1.322	1.096	58.60	31.53	48.80
MCM07610	0.48	0.076	2.250	39.71	1.480	1.224	51.60	31.53	42.90
MCM07611	0.48	0.076	2.500	39.71	1.638	1.351	46.10	31.53	38.40
MCM07612	0.48	0.076	2.750	39.71	1.797	1.479	41.70	31.53	34.70
MCM07613	0.48	0.076	3.000	39.71	1.955	1.607	38.00	31.53	31.60
MCM07614	0.48	0.076	3.250	39.71	2.113	1.734	34.90	31.53	29.10
MCM07615	0.48	0.076	3.500	39.71	2.272	1.862	32.30	31.53	26.90
MCM08501	0.48	0.085	0.625	54.59	0.484	0.437	387.40	42.68	322.90



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCM08502	0.48	0.085	0.750	54.59	0.570	0.511	303.90	42.68	253.30
MCM08503	0.48	0.085	0.875	54.59	0.657	0.584	250.00	42.68	208.40
MCM08504	0.48	0.085	1.000	54.59	0.743	0.657	212.40	42.68	177.00
MCM08505	0.48	0.085	1.250	54.59	0.916	0.804	163.20	42.68	136.00
MCM08506	0.48	0.085	1.500	54.59	1.088	0.951	132.50	42.68	110.50
MCM08507	0.48	0.085	1.750	54.59	1.261	1.098	111.60	42.68	93.00
MCM08508	0.48	0.085	2.000	54.59	1.433	1.244	96.30	42.68	80.30
MCM08509	0.48	0.085	2.250	54.59	1.606	1.391	84.80	42.68	70.60
MCM08510	0.48	0.085	2.500	54.59	1.778	1.538	75.70	42.68	63.00
MCM08511	0.48	0.085	2.750	54.59	1.951	1.685	68.30	42.68	56.90
MCM08512	0.48	0.085	3.000	54.59	2.124	1.831	62.30	42.68	51.90
MCM08513	0.48	0.085	3.250	54.59	2.296	1.978	57.20	42.68	47.70
MCM08514	0.48	0.085	3.500	54.59	2.469	2.125	52.90	42.68	44.10
MCM04001	0.6	0.040	0.625	4.30	0.268	0.149	12.06	3.56	10.04
MCM04002	0.6	0.040	0.750	4.30	0.312	0.165	9.81	3.56	8.17
MCM04003	0.6	0.040	0.875	4.30	0.355	0.181	8.27	3.56	6.88
MCM04004	0.6	0.040	1.000	4.30	0.398	0.197	7.15	3.56	5.95
MCM04005	0.6	0.040	1.250	4.30	0.484	0.229	5.62	3.56	4.68
MCM04006	0.6	0.040	1.500	4.30	0.571	0.261	4.63	3.56	3.85
MCM04007	0.6	0.040	1.750	4.30	0.657	0.293	3.94	3.56	3.28
MCM04008	0.6	0.040	2.000	4.30	0.744	0.325	3.42	3.56	2.85
MCM04009	0.6	0.040	2.250	4.30	0.830	0.357	3.03	3.56	2.52
MCM04010	0.6	0.040	2.500	4.30	0.916	0.389	2.72	3.56	2.26
MCM04011	0.6	0.040	2.750	4.30	1.003	0.420	2.46	3.56	2.05
MCM04012	0.6	0.040	3.000	4.30	1.089	0.452	2.25	3.56	1.87
MCM04013	0.6	0.040	3.500	4.30	1.262	0.516	1.92	3.56	1.60
MCN04501	0.6	0.045	0.500	6.74	0.238	0.150	25.70	5.76	22.00
MCN04502	0.6	0.045	0.625	6.74	0.283	0.169	19.70	5.76	16.90
MCN04503	0.6	0.045	0.750	6.74	0.328	0.187	16.00	5.76	13.70
MCN04504	0.6	0.045	0.875	6.74	0.373	0.206	13.40	5.76	11.50
MCN04505	0.6	0.045	1.000	6.74	0.418	0.224	11.60	5.76	9.90
MCN04506	0.6	0.045	1.250	6.74	0.508	0.261	9.10	5.76	7.80
MCN04507	0.6	0.045	1.500	6.74	0.598	0.298	7.50	5.76	6.40
MCN04508	0.6	0.045	1.750	6.74	0.688	0.334	6.30	5.76	5.40
MCN04509	0.6	0.045	2.000	6.74	0.778	0.371	5.50	5.76	4.70
MCN04510	0.6	0.045	2.250	6.74	0.869	0.408	4.90	5.76	4.20
MCN04511	0.6	0.045	2.500	6.74	0.959	0.445	4.40	5.76	3.70
MCN04512	0.6	0.045	2.750	6.74	1.049	0.482	4.00	5.76	3.40
MCN04513	0.6	0.045	3.000	6.74	1.139	0.519	3.60	5.76	3.10
MCN04514	0.6	0.045	3.250	6.74	1.229	0.555	3.30	5.76	2.90
MCN04515	0.6	0.045	3.500	6.74	1.319	0.592	3.10	5.76	2.60
MCN04901	0.6	0.049	0.625	8.59	0.299	0.190	26.30	7.34	22.60
MCN04902	0.6	0.049	0.750	8.59	0.347	0.212	21.30	7.34	18.20
MCN04903	0.6	0.049	0.875	8.59	0.394	0.234	17.90	7.34	15.30
MCN04904	0.6	0.049	1.000	8.59	0.442	0.256	15.40	7.34	13.20
MCN04905	0.6	0.049	1.250	8.59	0.537	0.300	12.00	7.34	10.30
MCN04906	0.6	0.049	1.500	8.59	0.632	0.343	9.90	7.34	8.50
MCN04907	0.6	0.049	1.750	8.59	0.728	0.387	8.40	7.34	7.20



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCN04908	0.6	0.049	2.000	8.59	0.823	0.431	7.30	7.34	6.30
MCN04909	0.6	0.049	2.250	8.59	0.918	0.474	6.40	7.34	5.50
MCN04910	0.6	0.049	2.500	8.59	1.014	0.518	5.80	7.34	5.00
MCN04911	0.6	0.049	2.750	8.59	1.109	0.562	5.20	7.34	4.50
MCN04912	0.6	0.049	3.000	8.59	1.204	0.606	4.80	7.34	4.10
MCN04913	0.6	0.049	3.500	8.59	1.395	0.693	4.10	7.34	3.50
MCN05501	0.6	0.055	0.625	11.86	0.324	0.223	39.40	10.13	33.80
MCN05502	0.6	0.055	0.750	11.86	0.376	0.251	31.70	10.13	27.20
MCN05503	0.6	0.055	0.875	11.86	0.428	0.279	26.50	10.13	22.70
MCN05504	0.6	0.055	1.000	11.86	0.480	0.306	22.80	10.13	19.50
MCN05505	0.6	0.055	1.250	11.86	0.583	0.361	17.80	10.13	15.30
MCN05506	0.6	0.055	1.500	11.86	0.687	0.416	14.60	10.13	12.50
MCN05507	0.6	0.055	1.750	11.86	0.791	0.471	12.40	10.13	10.60
MCN05508	0.6	0.055	2.000	11.86	0.895	0.527	10.70	10.13	9.20
MCN05509	0.6	0.055	2.250	11.86	0.999	0.582	9.50	10.13	8.10
MCN05510	0.6	0.055	2.500	11.86	1.103	0.637	8.50	10.13	7.30
MCN05511	0.6	0.055	2.750	11.86	1.206	0.692	7.70	10.13	6.60
MCN05512	0.6	0.055	3.000	11.86	1.310	0.747	7.00	10.13	6.00
MCN05513	0.6	0.055	3.500	11.86	1.518	0.857	6.00	10.13	5.10
MCN05901	0.6	0.059	0.625	14.43	0.341	0.246	50.80	12.31	43.50
MCN05902	0.6	0.059	0.750	14.43	0.396	0.277	40.70	12.31	34.90
MCN05903	0.6	0.059	0.875	14.43	0.450	0.309	34.00	12.31	29.10
MCN05904	0.6	0.059	1.000	14.43	0.505	0.340	29.20	12.31	25.00
MCN05905	0.6	0.059	1.250	14.43	0.615	0.404	22.70	12.31	19.50
MCN05906	0.6	0.059	1.500	14.43	0.725	0.467	18.60	12.31	16.00
MCN05907	0.6	0.059	1.750	14.43	0.835	0.530	15.80	12.31	13.50
MCN05908	0.6	0.059	2.000	14.43	0.944	0.593	13.70	12.31	11.70
MCN05909	0.6	0.059	2.250	14.43	1.054	0.656	12.10	12.31	10.30
MCN05910	0.6	0.059	2.500	14.43	1.164	0.719	10.80	12.31	9.30
MCN05911	0.6	0.059	2.750	14.43	1.274	0.782	9.80	12.31	8.40
MCN05912	0.6	0.059	3.000	14.43	1.384	0.845	8.90	12.31	7.70
MCN05913	0.6	0.059	3.500	14.43	1.603	0.971	7.60	12.31	6.50
MCN06301	0.6	0.063	0.625	17.37	0.357	0.268	64.90	14.79	55.60
MCN06302	0.6	0.063	0.750	17.37	0.415	0.304	51.90	14.79	44.40
MCN06303	0.6	0.063	0.875	17.37	0.473	0.339	43.20	14.79	37.00
MCN06304	0.6	0.063	1.000	17.37	0.531	0.375	37.00	14.79	31.70
MCN06305	0.6	0.063	1.250	17.37	0.647	0.446	28.80	14.79	24.70
MCN06306	0.6	0.063	1.500	17.37	0.763	0.517	23.60	14.79	20.20
MCN06307	0.6	0.063	1.750	17.37	0.879	0.588	19.90	14.79	17.10
MCN06308	0.6	0.063	2.000	17.37	0.994	0.659	17.30	14.79	14.80
MCN06309	0.6	0.063	2.250	17.37	1.110	0.730	15.20	14.79	13.10
MCN06310	0.6	0.063	2.500	17.37	1.226	0.802	13.60	14.79	11.70
MCN06311	0.6	0.063	2.750	17.37	1.342	0.873	12.30	14.79	10.60
MCN06312	0.6	0.063	3.000	17.37	1.458	0.944	11.30	14.79	9.60
MCN06313	0.6	0.063	3.250	17.37	1.574	1.015	10.40	14.79	8.90
MCN06314	0.6	0.063	3.500	17.37	1.690	1.086	9.60	14.79	8.20
MCN06701	0.6	0.067	0.625	20.56	0.374	0.290	81.90	17.50	70.20



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCN06702	0.6	0.067	0.750	20.56	0.435	0.330	65.30	17.50	56.00
MCN06703	0.6	0.067	0.875	20.56	0.496	0.370	54.30	17.50	46.50
MCN06704	0.6	0.067	1.000	20.56	0.557	0.410	46.50	17.50	39.80
MCN06705	0.6	0.067	1.250	20.56	0.680	0.490	36.00	17.50	30.90
MCN06706	0.6	0.067	1.500	20.56	0.802	0.569	29.40	17.50	25.20
MCN06707	0.6	0.067	1.750	20.56	0.924	0.649	24.90	17.50	21.30
MCN06708	0.6	0.067	2.000	20.56	1.046	0.729	21.60	17.50	18.50
MCN06709	0.6	0.067	2.250	20.56	1.169	0.808	19.00	17.50	16.30
MCN06710	0.6	0.067	2.500	20.56	1.291	0.888	17.00	17.50	14.60
MCN06711	0.6	0.067	2.750	20.56	1.413	0.968	15.40	17.50	13.20
MCN06712	0.6	0.067	3.000	20.56	1.535	1.047	14.00	17.50	12.00
MCN06713	0.6	0.067	3.500	20.56	1.780	1.207	12.00	17.50	10.20
MCN07201	0.6	0.072	0.625	25.18	0.394	0.317	109.10	21.39	93.50
MCN07202	0.6	0.072	0.750	25.18	0.459	0.362	86.60	21.39	74.20
MCN07203	0.6	0.072	0.875	25.18	0.524	0.407	71.80	21.39	61.50
MCN07204	0.6	0.072	1.000	25.18	0.589	0.452	61.30	21.39	52.50
MCN07205	0.6	0.072	1.250	25.18	0.719	0.542	47.40	21.39	40.60
MCN07206	0.6	0.072	1.500	25.18	0.849	0.632	38.70	21.39	33.20
MCN07207	0.6	0.072	1.750	25.18	0.979	0.722	32.70	21.39	28.00
MCN07208	0.6	0.072	2.000	25.18	1.109	0.812	28.30	21.39	24.20
MCN07209	0.6	0.072	2.250	25.18	1.239	0.902	24.90	21.39	21.30
MCN07210	0.6	0.072	2.500	25.18	1.369	0.992	22.30	21.39	19.10
MCN07211	0.6	0.072	2.750	25.18	1.499	1.082	20.10	21.39	17.30
MCN07212	0.6	0.072	3.000	25.18	1.629	1.173	18.40	21.39	15.70
MCN07213	0.6	0.072	3.500	25.18	1.889	1.353	15.60	21.39	13.40
MCN08101	0.6	0.081	0.625	43.89	0.410	0.338	203.80	35.58	169.80
MCN08102	0.6	0.081	0.750	43.89	0.477	0.385	160.50	35.58	133.70
MCN08103	0.6	0.081	0.875	43.89	0.543	0.433	132.40	35.58	110.30
MCN08104	0.6	0.081	1.000	43.89	0.610	0.480	112.60	35.58	93.80
MCN08105	0.6	0.081	1.250	43.89	0.744	0.575	86.70	35.58	72.30
MCN08106	0.6	0.081	1.500	43.89	0.878	0.670	70.50	35.58	58.80
MCN08107	0.6	0.081	1.750	43.89	1.011	0.765	59.40	35.58	49.50
MCN08108	0.6	0.081	2.000	43.89	1.145	0.860	51.30	35.58	42.80
MCN08109	0.6	0.081	2.250	43.89	1.279	0.955	45.20	35.58	37.70
MCN08110	0.6	0.081	2.500	43.89	1.413	1.050	40.40	35.58	33.60
MCN08111	0.6	0.081	2.750	43.89	1.546	1.145	36.50	35.58	30.40
MCN08112	0.6	0.081	3.000	43.89	1.680	1.240	33.30	35.58	27.70
MCN08113	0.6	0.081	3.250	43.89	1.814	1.335	30.60	35.58	25.50
MCN08114	0.6	0.081	3.500	43.89	1.948	1.430	28.30	35.58	23.60
MCN08115	0.6	0.081	3.750	43.89	2.081	1.525	26.30	35.58	21.90
MCN08116	0.6	0.081	4.000	43.89	2.215	1.620	24.60	35.58	20.50
MCN08501	0.6	0.085	0.625	47.17	0.429	0.364	240.90	38.02	200.70
MCN08502	0.6	0.085	0.750	47.17	0.500	0.417	188.90	38.02	157.40
MCN08503	0.6	0.085	0.875	47.17	0.572	0.470	155.40	38.02	129.50
MCN08504	0.6	0.085	1.000	47.17	0.643	0.524	132.00	38.02	110.00
MCN08505	0.6	0.085	1.250	47.17	0.785	0.630	101.50	38.02	84.50
MCN08506	0.6	0.085	1.500	47.17	0.928	0.737	82.40	38.02	68.60
MCN08507	0.6	0.085	1.750	47.17	1.070	0.843	69.40	38.02	57.80



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCN08508	0.6	0.085	2.000	47.17	1.212	0.950	59.90	38.02	49.90
MCN08509	0.6	0.085	2.250	47.17	1.355	1.056	52.70	38.02	43.90
MCN08510	0.6	0.085	2.500	47.17	1.497	1.163	47.00	38.02	39.20
MCN08511	0.6	0.085	2.750	47.17	1.640	1.269	42.50	38.02	35.40
MCN08512	0.6	0.085	3.000	47.17	1.782	1.376	38.70	38.02	32.30
MCN08513	0.6	0.085	3.250	47.17	1.924	1.482	35.60	38.02	29.60
MCN08514	0.6	0.085	3.500	47.17	2.067	1.589	32.90	38.02	27.40
MCN08515	0.6	0.085	3.750	47.17	2.209	1.695	30.60	38.02	25.50
MCN08516	0.6	0.085	4.000	47.17	2.352	1.802	28.60	38.02	23.80
MCN09301	0.6	0.093	0.750	60.46	0.533	0.461	279.00	48.25	232.40
MCN09302	0.6	0.093	0.875	60.46	0.610	0.522	228.40	48.25	190.20
MCN09303	0.6	0.093	1.000	60.46	0.687	0.583	193.30	48.25	161.00
MCN09304	0.6	0.093	1.250	60.46	0.841	0.705	147.90	48.25	123.20
MCN09305	0.6	0.093	1.500	60.46	0.995	0.827	119.70	48.25	99.70
MCN09306	0.6	0.093	1.750	60.46	1.149	0.949	100.60	48.25	83.80
MCN09307	0.6	0.093	2.000	60.46	1.303	1.071	86.70	48.25	72.20
MCN09308	0.6	0.093	2.250	60.46	1.457	1.193	76.20	48.25	63.50
MCN09309	0.6	0.093	2.500	60.46	1.611	1.314	68.00	48.25	56.60
MCN09310	0.6	0.093	2.750	60.46	1.765	1.436	61.40	48.25	51.10
MCN09311	0.6	0.093	3.000	60.46	1.919	1.558	55.90	48.25	46.60
MCN09312	0.6	0.093	3.250	60.46	2.073	1.680	51.40	48.25	42.80
MCN09313	0.6	0.093	3.500	60.46	2.227	1.802	47.50	48.25	39.50
MCN09314	0.6	0.093	3.750	60.46	2.381	1.924	44.10	48.25	36.80
MCN09315	0.6	0.093	4.000	60.46	2.535	2.046	41.30	48.25	34.40
MCN10001	0.6	0.100	0.750	72.08	0.562	0.500	383.80	56.94	319.90
MCN10002	0.6	0.100	0.875	72.08	0.645	0.568	312.80	56.94	260.60
MCN10003	0.6	0.100	1.000	72.08	0.727	0.636	263.90	56.94	219.90
MCN10004	0.6	0.100	1.250	72.08	0.891	0.772	201.10	56.94	167.50
MCN10005	0.6	0.100	1.500	72.08	1.056	0.908	162.40	56.94	135.30
MCN10006	0.6	0.100	1.750	72.08	1.221	1.044	136.20	56.94	113.50
MCN10007	0.6	0.100	2.000	72.08	1.385	1.181	117.30	56.94	97.70
MCN10008	0.6	0.100	2.250	72.08	1.550	1.317	103.00	56.94	85.80
MCN10009	0.6	0.100	2.500	72.08	1.715	1.453	91.80	56.94	76.50
MCN10010	0.6	0.100	2.750	72.08	1.879	1.589	82.80	56.94	69.00
MCN10011	0.6	0.100	3.000	72.08	2.044	1.725	75.40	56.94	62.80
MCN10012	0.6	0.100	3.250	72.08	2.209	1.861	69.20	56.94	57.70
MCN10013	0.6	0.100	3.500	72.08	2.373	1.998	64.00	56.94	53.30
MCN10014	0.6	0.100	3.750	72.08	2.538	2.134	59.50	56.94	49.60
MCN10014	0.6	0.100	4.000	72.08	2.703	2.270	55.60	56.94	46.30
MCO04801	0.72	0.048	0.750	6.11	0.323	0.180	14.30	5.05	11.90
MCO04802	0.72	0.048	1.000	6.11	0.410	0.213	10.30	5.05	8.60
MCO04803	0.72	0.048	1.250	6.11	0.496	0.245	8.10	5.05	6.70
MCO04804	0.72	0.048	1.500	6.11	0.583	0.277	6.70	5.05	5.50
MCO04805	0.72	0.048	1.750	6.11	0.670	0.310	5.70	5.05	4.70
MCO04806	0.72	0.048	2.000	6.11	0.756	0.342	4.90	5.05	4.10
MCO04807	0.72	0.048	2.250	6.11	0.843	0.374	4.30	5.05	3.60
MCO04808	0.72	0.048	2.500	6.11	0.930	0.406	3.90	5.05	3.20
MCO04809	0.72	0.048	2.750	6.11	1.016	0.439	3.50	5.05	2.90



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate

MCO04810	0.72	0.048	3.000	6.11	1.103	0.471	3.20	5.05	2.70
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MCO05501	0.72	0.055	0.625	9.54	0.301	0.193	29.50	8.15	25.30
MCO05502	0.72	0.055	0.750	9.54	0.348	0.214	23.70	8.15	20.30
MCO05503	0.72	0.055	0.875	9.54	0.394	0.234	19.80	8.15	17.00
MCO05504	0.72	0.055	1.000	9.54	0.441	0.254	17.10	8.15	14.60
MCO05505	0.72	0.055	1.250	9.54	0.534	0.295	13.30	8.15	11.40
MCO05506	0.72	0.055	1.500	9.54	0.626	0.335	10.90	8.15	9.40
MCO05507	0.72	0.055	1.750	9.54	0.719	0.376	9.30	8.15	7.90
MCO05508	0.72	0.055	2.000	9.54	0.812	0.416	8.00	8.15	6.90
MCO05509	0.72	0.055	2.250	9.54	0.905	0.457	7.10	8.15	6.10
MCO05510	0.72	0.055	2.500	9.54	0.998	0.497	6.40	8.15	5.40
MCO05511	0.72	0.055	2.750	9.54	1.091	0.538	5.80	8.15	4.90
MCO05512	0.72	0.055	3.000	9.54	1.184	0.578	5.30	8.15	4.50

MCO05901	0.72	0.059	0.750	11.59	0.365	0.236	30.10	9.91	25.80
MCO05902	0.72	0.059	0.875	11.59	0.413	0.260	25.10	9.91	21.60
MCO05903	0.72	0.059	1.000	11.59	0.462	0.283	21.60	9.91	18.50
MCO05904	0.72	0.059	1.250	11.59	0.560	0.330	16.80	9.91	14.40
MCO05905	0.72	0.059	1.500	11.59	0.657	0.377	13.80	9.91	11.80
MCO05906	0.72	0.059	1.750	11.59	0.755	0.423	11.70	9.91	10.00
MCO05907	0.72	0.059	2.000	11.59	0.853	0.470	10.10	9.91	8.70
MCO05908	0.72	0.059	2.250	11.59	0.950	0.517	8.90	9.91	7.70
MCO05909	0.72	0.059	2.500	11.59	1.048	0.564	8.00	9.91	6.80
MCO05910	0.72	0.059	2.750	11.59	1.145	0.610	7.20	9.91	6.20
MCO05911	0.72	0.059	3.000	11.59	1.243	0.657	6.60	9.91	5.70

MCO06301	0.72	0.063	0.625	13.97	0.330	0.232	47.40	11.93	40.60
MCO06302	0.72	0.063	0.750	13.97	0.382	0.259	37.90	11.93	32.50
MCO06303	0.72	0.063	0.875	13.97	0.433	0.285	31.60	11.93	27.10
MCO06304	0.72	0.063	1.000	13.97	0.484	0.312	27.10	11.93	23.20
MCO06305	0.72	0.063	1.250	13.97	0.586	0.365	21.00	11.93	18.00
MCO06306	0.72	0.063	1.500	13.97	0.689	0.418	17.20	11.93	14.80
MCO06307	0.72	0.063	1.750	13.97	0.791	0.471	14.60	11.93	12.50
MCO06308	0.72	0.063	2.000	13.97	0.893	0.524	12.60	11.93	10.80
MCO06309	0.72	0.063	2.250	13.97	0.996	0.578	11.10	11.93	9.50
MCO06310	0.72	0.063	2.500	13.97	1.098	0.631	10.00	11.93	8.50
MCO06311	0.72	0.063	2.750	13.97	1.200	0.684	9.00	11.93	7.70
MCO06312	0.72	0.063	3.000	13.97	1.303	0.737	8.20	11.93	7.10

MCO06501	0.72	0.065	0.750	15.29	0.390	0.270	42.50	13.05	36.40
MCO06502	0.72	0.065	0.875	15.29	0.442	0.298	35.30	13.05	30.30
MCO06503	0.72	0.065	1.000	15.29	0.495	0.326	30.30	13.05	25.90
MCO06504	0.72	0.065	1.250	15.29	0.599	0.383	23.50	13.05	20.10
MCO06505	0.72	0.065	1.500	15.29	0.704	0.439	19.20	13.05	16.50
MCO06506	0.72	0.065	1.750	15.29	0.809	0.495	16.20	13.05	13.90
MCO06507	0.72	0.065	2.000	15.29	0.914	0.552	14.10	13.05	12.10
MCO06508	0.72	0.065	2.250	15.29	1.019	0.608	12.40	13.05	10.60
MCO06509	0.72	0.065	2.500	15.29	1.123	0.664	11.10	13.05	9.50
MCO06510	0.72	0.065	2.750	15.29	1.228	0.721	10.00	13.05	8.60
MCO06511	0.72	0.065	3.000	15.29	1.333	0.777	9.20	13.05	7.90



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCO06512	0.72	0.065	3.500	15.29	1.542	0.890	7.80	13.05	6.70
MCO06801	0.72	0.068	0.750	17.31	0.403	0.287	49.90	14.77	42.70
MCO06802	0.72	0.068	0.875	17.31	0.457	0.318	41.40	14.77	35.50
MCO06803	0.72	0.068	1.000	17.31	0.512	0.349	35.40	14.77	30.40
MCO06804	0.72	0.068	1.250	17.31	0.620	0.410	27.50	14.77	23.60
MCO06805	0.72	0.068	1.500	17.31	0.729	0.472	22.40	14.77	19.20
MCO06806	0.72	0.068	1.750	17.31	0.838	0.534	19.00	14.77	16.30
MCO06807	0.72	0.068	2.000	17.31	0.946	0.595	16.40	14.77	14.10
MCO06808	0.72	0.068	2.250	17.31	1.055	0.657	14.50	14.77	12.40
MCO06809	0.72	0.068	2.500	17.31	1.164	0.718	13.00	14.77	11.10
MCO06810	0.72	0.068	2.750	17.31	1.272	0.780	11.70	14.77	10.00
MCO06811	0.72	0.068	3.000	17.31	1.381	0.841	10.70	14.77	9.20
MCO06812	0.72	0.068	3.500	17.31	1.598	0.965	9.10	14.77	7.80
MCO07201	0.72	0.072	0.750	20.28	0.420	0.310	61.50	17.30	52.70
MCO07202	0.72	0.072	0.875	20.28	0.477	0.345	51.00	17.30	43.70
MCO07203	0.72	0.072	1.000	20.28	0.534	0.379	43.50	17.30	37.30
MCO07204	0.72	0.072	1.250	20.28	0.648	0.447	33.70	17.30	28.90
MCO07205	0.72	0.072	1.500	20.28	0.762	0.516	27.50	17.30	23.60
MCO07206	0.72	0.072	1.750	20.28	0.876	0.585	23.20	17.30	19.90
MCO07207	0.72	0.072	2.000	20.28	0.990	0.653	20.10	17.30	17.20
MCO07208	0.72	0.072	2.250	20.28	1.104	0.722	17.70	17.30	15.20
MCO07209	0.72	0.072	2.500	20.28	1.218	0.790	15.80	17.30	13.60
MCO07210	0.72	0.072	2.750	20.28	1.332	0.859	14.30	17.30	12.30
MCO07211	0.72	0.072	3.000	20.28	1.446	0.927	13.00	17.30	11.20
MCO07212	0.72	0.072	3.500	20.28	1.673	1.065	11.10	17.30	9.50
MCO07213	0.72	0.072	4.000	20.28	1.901	1.202	9.70	17.30	8.30
MCO08001	0.72	0.080	0.750	27.25	0.454	0.355	92.00	23.18	78.90
MCO08002	0.72	0.080	0.875	27.25	0.516	0.397	75.90	23.18	65.10
MCO08003	0.72	0.080	1.000	27.25	0.578	0.438	64.60	23.18	55.40
MCO08004	0.72	0.080	1.250	27.25	0.703	0.521	49.80	23.18	42.70
MCO08005	0.72	0.080	1.500	27.25	0.828	0.603	40.50	23.18	34.70
MCO08006	0.72	0.080	1.750	27.25	0.952	0.686	34.20	23.18	29.30
MCO08007	0.72	0.080	2.000	27.25	1.077	0.769	29.50	23.18	25.30
MCO08008	0.72	0.080	2.250	27.25	1.201	0.852	26.00	23.18	22.30
MCO08009	0.72	0.080	2.500	27.25	1.326	0.934	23.20	23.18	19.90
MCO08010	0.72	0.080	2.750	27.25	1.450	1.017	21.00	23.18	18.00
MCO08011	0.72	0.080	3.000	27.25	1.575	1.100	19.10	23.18	16.40
MCO08012	0.72	0.080	3.500	27.25	1.824	1.265	16.30	23.18	13.90
MCO08013	0.72	0.080	4.000	27.25	2.073	1.431	14.10	23.18	12.10
MCO09100	0.72	0.091	0.750	39.06	0.498	0.414	155.10	33.14	133.00
MCO09101	0.72	0.091	1.000	39.06	0.637	0.517	107.70	33.14	92.30
MCO09102	0.72	0.091	1.250	39.06	0.777	0.619	82.50	33.14	70.70
MCO09103	0.72	0.091	1.500	39.06	0.916	0.721	66.90	33.14	57.30
MCO09104	0.72	0.091	1.750	39.06	1.055	0.823	56.20	33.14	48.20
MCO09105	0.72	0.091	2.000	39.06	1.194	0.926	48.50	33.14	41.50
MCO09106	0.72	0.091	2.250	39.06	1.333	1.028	42.60	33.14	36.50
MCO09107	0.72	0.091	2.500	39.06	1.473	1.130	38.00	33.14	32.60



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCO09108	0.72	0.091	2.750	39.06	1.612	1.232	34.30	33.14	29.40
MCO09109	0.72	0.091	3.000	39.06	1.751	1.335	31.30	33.14	26.80
MCO09110	0.72	0.091	3.500	39.06	2.029	1.539	26.60	33.14	22.80
MCO09111	0.72	0.091	4.000	39.06	2.308	1.744	23.10	33.14	19.80
MCO09801	0.72	0.098	0.750	59.37	0.503	0.421	240.40	47.93	200.10
MCO09802	0.72	0.098	1.000	59.37	0.642	0.522	165.60	47.93	137.90
MCO09803	0.72	0.098	1.250	59.37	0.780	0.623	126.30	47.93	105.20
MCO09804	0.72	0.098	1.500	59.37	0.919	0.725	102.10	47.93	85.00
MCO09805	0.72	0.098	1.750	59.37	1.057	0.826	85.70	47.93	71.30
MCO09806	0.72	0.098	2.000	59.37	1.196	0.928	73.80	47.93	61.50
MCO09807	0.72	0.098	2.250	59.37	1.334	1.029	64.80	47.93	54.00
MCO09808	0.72	0.098	2.500	59.37	1.473	1.130	57.80	47.93	48.10
MCO09809	0.72	0.098	2.750	59.37	1.611	1.232	52.10	47.93	43.40
MCO09810	0.72	0.098	3.000	59.37	1.750	1.333	47.50	47.93	39.50
MCO09811	0.72	0.098	3.500	59.37	2.027	1.536	40.30	47.93	33.60
MCO09812	0.72	0.098	4.000	59.37	2.304	1.739	35.00	47.93	29.10
MCO10901	0.72	0.109	1.000	70.48	0.711	0.615	244.20	56.08	203.40
MCO10902	0.72	0.109	1.250	70.48	0.869	0.742	185.00	56.08	154.20
MCO10903	0.72	0.109	1.500	70.48	1.027	0.869	148.90	56.08	124.10
MCO10904	0.72	0.109	1.750	70.48	1.184	0.996	124.60	56.08	103.80
MCO10905	0.72	0.109	2.000	70.48	1.342	1.123	107.20	56.08	89.30
MCO10906	0.72	0.109	2.250	70.48	1.500	1.250	94.00	56.08	78.30
MCO10907	0.72	0.109	2.500	70.48	1.658	1.377	83.70	56.08	69.70
MCO10908	0.72	0.109	2.750	70.48	1.815	1.504	75.40	56.08	62.80
MCO10909	0.72	0.109	3.000	70.48	1.973	1.631	68.60	56.08	57.20
MCO10910	0.72	0.109	3.500	70.48	2.289	1.885	58.20	56.08	48.50
MCO10911	0.72	0.109	4.000	70.48	2.604	2.139	50.50	56.08	42.10
MCO11501	0.72	0.115	1.000	85.52	0.731	0.641	317.60	67.97	265.20
MCO11502	0.72	0.115	1.250	85.52	0.893	0.774	239.80	67.97	200.20
MCO11503	0.72	0.115	1.500	85.52	1.056	0.908	192.60	67.97	160.80
MCO11504	0.72	0.115	1.750	85.52	1.219	1.041	160.90	67.97	134.30
MCO11505	0.72	0.115	2.000	85.52	1.381	1.175	138.20	67.97	115.30
MCO11506	0.72	0.115	2.250	85.52	1.544	1.308	121.10	67.97	101.10
MCO11507	0.72	0.115	2.500	85.52	1.706	1.442	107.70	67.97	89.90
MCO11508	0.72	0.115	2.750	85.52	1.869	1.575	97.10	67.97	81.00
MCO11509	0.72	0.115	3.000	85.52	2.032	1.709	88.30	67.97	73.70
MCO11510	0.72	0.115	3.500	85.52	2.357	1.976	74.80	67.97	62.40
MCO11511	0.72	0.115	4.000	85.52	2.682	2.243	64.90	67.97	54.20
MCO12501	0.72	0.125	1.000	111.00	0.766	0.689	474.90	86.72	395.60
MCO12502	0.72	0.125	1.250	111.00	0.939	0.835	356.20	86.72	296.70
MCO12503	0.72	0.125	1.500	111.00	1.111	0.981	285.00	86.72	237.40
MCO12504	0.72	0.125	1.750	111.00	1.283	1.127	237.50	86.72	197.80
MCO12505	0.72	0.125	2.000	111.00	1.455	1.273	203.50	86.72	169.60
MCO12506	0.72	0.125	2.250	111.00	1.627	1.419	178.10	86.72	148.40
MCO12507	0.72	0.125	2.500	111.00	1.799	1.566	158.30	86.72	131.90
MCO12508	0.72	0.125	2.750	111.00	1.971	1.712	142.50	86.72	118.70
MCO12509	0.72	0.125	3.000	111.00	2.143	1.858	129.50	86.72	107.90



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCO12510	0.72	0.125	3.500	111.00	2.488	2.150	109.60	86.72	91.30
MCO12511	0.72	0.125	4.000	111.00	2.832	2.443	95.00	86.72	79.10
MCP05501	0.85	0.055	0.750	7.62	0.330	0.189	18.10	6.51	15.50
MCP05502	0.85	0.055	0.875	7.62	0.372	0.205	15.20	6.51	13.00
MCP05503	0.85	0.055	1.000	7.62	0.415	0.220	13.00	6.51	11.20
MCP05504	0.85	0.055	1.250	7.62	0.501	0.252	10.20	6.51	8.70
MCP05505	0.85	0.055	1.500	7.62	0.587	0.283	8.30	6.51	7.10
MCP05506	0.85	0.055	1.750	7.62	0.673	0.314	7.10	6.51	6.10
MCP05507	0.85	0.055	2.000	7.62	0.758	0.345	6.10	6.51	5.30
MCP05508	0.85	0.055	2.250	7.62	0.844	0.376	5.40	6.51	4.60
MCP05509	0.85	0.055	2.500	7.62	0.930	0.407	4.90	6.51	4.20
MCP05510	0.85	0.055	2.750	7.62	1.016	0.438	4.40	6.51	3.80
MCP05511	0.85	0.055	3.000	7.62	1.102	0.469	4.00	6.51	3.40
MCP05512	0.85	0.055	3.500	7.62	1.273	0.531	3.40	6.51	2.90
MCP05513	0.85	0.055	4.000	7.62	1.445	0.593	3.00	6.51	2.60
MCP06801	0.85	0.068	0.750	13.81	0.378	0.254	37.10	11.78	31.80
MCP06802	0.85	0.068	0.875	13.81	0.427	0.278	30.80	11.78	26.40
MCP06803	0.85	0.068	1.000	13.81	0.476	0.302	26.40	11.78	22.60
MCP06804	0.85	0.068	1.250	13.81	0.575	0.350	20.50	11.78	17.50
MCP06805	0.85	0.068	1.500	13.81	0.673	0.398	16.70	11.78	14.30
MCP06806	0.85	0.068	1.750	13.81	0.772	0.446	14.10	11.78	12.10
MCP06807	0.85	0.068	2.000	13.81	0.870	0.494	12.20	11.78	10.50
MCP06808	0.85	0.068	2.250	13.81	0.969	0.542	10.80	11.78	9.20
MCP06809	0.85	0.068	2.500	13.81	1.067	0.589	9.60	11.78	8.30
MCP06810	0.85	0.068	2.750	13.81	1.166	0.637	8.70	11.78	7.50
MCP06811	0.85	0.068	3.000	13.81	1.264	0.685	8.00	11.78	6.80
MCP06812	0.85	0.068	3.500	13.81	1.461	0.781	6.80	11.78	5.80
MCP06813	0.85	0.068	4.000	13.81	1.658	0.877	5.90	11.78	5.00
MCP07401	0.85	0.074	0.875	17.57	0.453	0.312	41.60	14.99	35.70
MCP07402	0.85	0.074	1.000	17.57	0.505	0.340	35.50	14.99	30.40
MCP07403	0.85	0.074	1.250	17.57	0.610	0.397	27.50	14.99	23.50
MCP07404	0.85	0.074	1.500	17.57	0.715	0.453	22.40	14.99	19.20
MCP07405	0.85	0.074	1.750	17.57	0.820	0.509	18.90	14.99	16.20
MCP07406	0.85	0.074	2.000	17.57	0.924	0.566	16.30	14.99	14.00
MCP07407	0.85	0.074	2.250	17.57	1.029	0.622	14.40	14.99	12.30
MCP07408	0.85	0.074	2.500	17.57	1.134	0.679	12.90	14.99	11.00
MCP07409	0.85	0.074	2.750	17.57	1.239	0.735	11.60	14.99	10.00
MCP07410	0.85	0.074	3.000	17.57	1.344	0.791	10.60	14.99	9.10
MCP07411	0.85	0.074	3.500	17.57	1.553	0.904	9.00	14.99	7.70
MCP07412	0.85	0.074	4.000	17.57	1.763	1.017	7.90	14.99	6.70
MCP08001	0.85	0.080	0.750	21.77	0.424	0.315	66.70	18.56	57.20
MCP08002	0.85	0.080	0.875	21.77	0.479	0.347	55.00	18.56	47.20
MCP08003	0.85	0.080	1.000	21.77	0.535	0.380	46.80	18.56	40.10
MCP08004	0.85	0.080	1.250	21.77	0.647	0.446	36.10	18.56	30.90
MCP08005	0.85	0.080	1.500	21.77	0.759	0.511	29.40	18.56	25.20
MCP08006	0.85	0.080	1.750	21.77	0.870	0.577	24.70	18.56	21.20
MCP08007	0.85	0.080	2.000	21.77	0.982	0.642	21.40	18.56	18.30



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCP08008	0.85	0.080	2.250	21.77	1.094	0.708	18.80	18.56	16.10
MCP08009	0.85	0.080	2.500	21.77	1.205	0.774	16.80	18.56	14.40
MCP08010	0.85	0.080	2.750	21.77	1.317	0.839	15.20	18.56	13.00
MCP08011	0.85	0.080	3.000	21.77	1.428	0.905	13.90	18.56	11.90
MCP08012	0.85	0.080	3.500	21.77	1.652	1.036	11.80	18.56	10.10
MCP08013	0.85	0.080	4.000	21.77	1.875	1.167	10.20	18.56	8.80
MCP08501	0.85	0.085	0.750	25.80	0.442	0.340	83.90	21.98	71.90
MCP08502	0.85	0.085	0.875	25.80	0.501	0.376	69.00	21.98	59.10
MCP08503	0.85	0.085	1.000	25.80	0.560	0.413	58.60	21.98	50.20
MCP08504	0.85	0.085	1.250	25.80	0.677	0.486	45.00	21.98	38.60
MCP08505	0.85	0.085	1.500	25.80	0.795	0.559	36.60	21.98	31.40
MCP08506	0.85	0.085	1.750	25.80	0.912	0.633	30.80	21.98	26.40
MCP08507	0.85	0.085	2.000	25.80	1.029	0.706	26.60	21.98	22.80
MCP08508	0.85	0.085	2.250	25.80	1.147	0.779	23.40	21.98	20.00
MCP08509	0.85	0.085	2.500	25.80	1.264	0.852	20.90	21.98	17.90
MCP08510	0.85	0.085	2.750	25.80	1.382	0.926	18.90	21.98	16.20
MCP08511	0.85	0.085	3.000	25.80	1.499	0.999	17.20	21.98	14.70
MCP08512	0.85	0.085	3.500	25.80	1.734	1.145	14.60	21.98	12.50
MCP08513	0.85	0.085	4.000	25.80	1.969	1.292	12.70	21.98	10.90
MCP09101	0.85	0.091	0.875	31.25	0.527	0.411	89.70	26.58	76.90
MCP09102	0.85	0.091	1.000	31.25	0.589	0.452	76.00	26.58	65.10
MCP09103	0.85	0.091	1.250	31.25	0.713	0.534	58.20	26.58	49.90
MCP09104	0.85	0.091	1.500	31.25	0.838	0.617	47.20	26.58	40.40
MCP09105	0.85	0.091	1.750	31.25	0.962	0.699	39.70	26.58	34.00
MCP09106	0.85	0.091	2.000	31.25	1.086	0.782	34.20	26.58	29.30
MCP09107	0.85	0.091	2.250	31.25	1.211	0.864	30.10	26.58	25.80
MCP09108	0.85	0.091	2.500	31.25	1.335	0.947	26.80	26.58	23.00
MCP09109	0.85	0.091	2.750	31.25	1.459	1.029	24.20	26.58	20.70
MCP09110	0.85	0.091	3.000	31.25	1.584	1.112	22.10	26.58	18.90
MCP09111	0.85	0.091	3.500	31.25	1.833	1.277	18.70	26.58	16.10
MCP09112	0.85	0.091	4.000	31.25	2.081	1.442	16.30	26.58	14.00
MCP09801	0.85	0.098	1.000	38.65	0.621	0.495	102.10	32.83	87.50
MCP09802	0.85	0.098	1.250	38.65	0.754	0.588	77.90	32.83	66.70
MCP09803	0.85	0.098	1.500	38.65	0.886	0.681	62.90	32.83	53.90
MCP09804	0.85	0.098	1.750	38.65	1.018	0.774	52.80	32.83	45.30
MCP09805	0.85	0.098	2.000	38.65	1.151	0.868	45.50	32.83	39.00
MCP09806	0.85	0.098	2.250	38.65	1.283	0.961	40.00	32.83	34.20
MCP09807	0.85	0.098	2.500	38.65	1.415	1.054	35.60	32.83	30.50
MCP09808	0.85	0.098	2.750	38.65	1.548	1.147	32.10	32.83	27.50
MCP09809	0.85	0.098	3.000	38.65	1.680	1.240	29.30	32.83	25.10
MCP09810	0.85	0.098	3.500	38.65	1.946	1.428	24.80	32.83	21.30
MCP09811	0.85	0.098	4.000	38.65	2.209	1.612	21.60	32.83	18.50
MCP10501	0.85	0.105	1.000	46.71	0.654	0.539	135.00	39.62	115.70
MCP10502	0.85	0.105	1.250	46.71	0.794	0.643	102.60	39.62	87.90
MCP10503	0.85	0.105	1.500	46.71	0.935	0.747	82.70	39.62	70.90
MCP10504	0.85	0.105	1.750	46.71	1.075	0.851	69.30	39.62	59.40
MCP10505	0.85	0.105	2.000	46.71	1.216	0.955	59.60	39.62	51.10



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate

MCP10506	0.85	0.105	2.250	46.71	1.356	1.059	52.30	39.62	44.80
MCP10507	0.85	0.105	2.500	46.71	1.497	1.163	46.60	39.62	39.90
MCP10508	0.85	0.105	2.750	46.71	1.638	1.267	42.00	39.62	36.00
MCP10509	0.85	0.105	3.000	46.71	1.778	1.371	38.20	39.62	32.80
MCP10510	0.85	0.105	3.500	46.71	2.059	1.579	32.40	39.62	27.80
MCP10511	0.85	0.105	4.000	46.71	2.340	1.787	28.10	39.62	24.10

Unground Ends

MCQ05501	0.975	0.055	1.000	6.24	0.437	0.249	11.08	5.14	9.18
MCQ05502	0.975	0.055	1.250	6.24	0.518	0.274	8.53	5.14	7.06
MCQ05503	0.975	0.055	1.500	6.24	0.599	0.299	6.93	5.14	5.74
MCQ05504	0.975	0.055	1.750	6.24	0.681	0.324	5.84	5.14	4.84
MCQ05505	0.975	0.055	2.000	6.24	0.762	0.349	5.04	5.14	4.18
MCQ05506	0.975	0.055	2.250	6.24	0.843	0.374	4.44	5.14	3.68
MCQ05507	0.975	0.055	2.500	6.24	0.925	0.399	3.96	5.14	3.28
MCQ05508	0.975	0.055	2.750	6.24	1.006	0.425	3.58	5.14	2.96
MCQ05509	0.975	0.055	3.000	6.24	1.087	0.450	3.26	5.14	2.70
MCQ05510	0.975	0.055	3.500	6.24	1.250	0.500	2.78	5.14	2.30
MCQ05511	0.975	0.055	4.000	6.24	1.413	0.550	2.41	5.14	2.00

MCQ06301	0.975	0.063	1.000	9.74	0.427	0.237	17.00	8.32	14.60
MCQ06302	0.975	0.063	1.250	9.74	0.514	0.268	13.20	8.32	11.30
MCQ06303	0.975	0.063	1.500	9.74	0.600	0.300	10.80	8.32	9.30
MCQ06304	0.975	0.063	1.750	9.74	0.686	0.331	9.20	8.32	7.80
MCQ06305	0.975	0.063	2.000	9.74	0.772	0.363	7.90	8.32	6.80
MCQ06306	0.975	0.063	2.250	9.74	0.859	0.395	7.00	8.32	6.00
MCQ06307	0.975	0.063	2.500	9.74	0.945	0.426	6.30	8.32	5.40
MCQ06308	0.975	0.063	2.750	9.74	1.031	0.458	5.70	8.32	4.90
MCQ06309	0.975	0.063	3.000	9.74	1.117	0.490	5.20	8.32	4.40
MCQ06310	0.975	0.063	3.500	9.74	1.290	0.553	4.40	8.32	3.80
MCQ06311	0.975	0.063	4.000	9.74	1.462	0.616	3.80	8.32	3.30

MCQ07401	0.975	0.074	1.000	15.40	0.473	0.297	29.20	13.13	25.00
MCQ07402	0.975	0.074	1.250	15.40	0.568	0.341	22.60	13.13	19.30
MCQ07403	0.975	0.074	1.500	15.40	0.664	0.385	18.40	13.13	15.80
MCQ07404	0.975	0.074	1.750	15.40	0.759	0.429	15.50	13.13	13.30
MCQ07405	0.975	0.074	2.000	15.40	0.854	0.472	13.40	13.13	11.50
MCQ07406	0.975	0.074	2.250	15.40	0.950	0.516	11.80	13.13	10.10
MCQ07407	0.975	0.074	2.500	15.40	1.045	0.560	10.60	13.13	9.10
MCQ07408	0.975	0.074	2.750	15.40	1.140	0.604	9.60	13.13	8.20
MCQ07409	0.975	0.074	3.000	15.40	1.236	0.648	8.70	13.13	7.50
MCQ07410	0.975	0.074	3.500	15.40	1.426	0.735	7.40	13.13	6.40
MCQ07411	0.975	0.074	4.000	15.40	1.617	0.823	6.50	13.13	5.50

MCQ08501	0.975	0.085	1.000	22.59	0.521	0.362	47.20	19.25	40.40
MCQ08502	0.975	0.085	1.250	22.59	0.627	0.419	36.30	19.25	31.10
MCQ08503	0.975	0.085	1.500	22.59	0.733	0.477	29.40	19.25	25.20
MCQ08504	0.975	0.085	1.750	22.59	0.839	0.535	24.80	19.25	21.20
MCQ08505	0.975	0.085	2.000	22.59	0.945	0.593	21.40	19.25	18.30
MCQ08506	0.975	0.085	2.250	22.59	1.050	0.650	18.80	19.25	16.10
MCQ08507	0.975	0.085	2.500	22.59	1.156	0.708	16.80	19.25	14.40
MCQ08508	0.975	0.085	2.750	22.59	1.262	0.766	15.20	19.25	13.00



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Stock Compression Springs

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	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCQ08509	0.975	0.085	3.000	22.59	1.368	0.824	13.80	19.25	11.90
MCQ08510	0.975	0.085	3.500	22.59	1.579	0.939	11.80	19.25	10.10
MCQ08511	0.975	0.085	4.000	22.59	1.791	1.055	10.20	19.25	8.80
MCQ09501	0.975	0.095	1.000	30.84	0.565	0.420	70.90	26.32	60.80
MCQ09502	0.975	0.095	1.250	30.84	0.681	0.491	54.20	26.32	46.50
MCQ09503	0.975	0.095	1.500	30.84	0.797	0.562	43.90	26.32	37.60
MCQ09504	0.975	0.095	1.750	30.84	0.912	0.633	36.80	26.32	31.60
MCQ09505	0.975	0.095	2.000	30.84	1.028	0.704	31.70	26.32	27.20
MCQ09506	0.975	0.095	2.250	30.84	1.144	0.775	27.90	26.32	23.90
MCQ09507	0.975	0.095	2.500	30.84	1.260	0.846	24.90	26.32	21.30
MCQ09508	0.975	0.095	2.750	30.84	1.376	0.917	22.40	26.32	19.30
MCQ09509	0.975	0.095	3.000	30.84	1.491	0.988	20.40	26.32	17.50
MCQ09510	0.975	0.095	3.500	30.84	1.723	1.130	17.40	26.32	14.90
MCQ09511	0.975	0.095	4.000	30.84	1.954	1.273	15.10	26.32	12.90
MCQ10501	0.975	0.105	1.000	40.95	0.608	0.477	104.40	34.81	89.40
MCQ10502	0.975	0.105	1.250	40.95	0.734	0.561	79.30	34.81	67.90
MCQ10503	0.975	0.105	1.500	40.95	0.859	0.646	63.90	34.81	54.80
MCQ10504	0.975	0.105	1.750	40.95	0.985	0.730	53.50	34.81	45.90
MCQ10505	0.975	0.105	2.000	40.95	1.111	0.815	46.10	34.81	39.50
MCQ10506	0.975	0.105	2.250	40.95	1.237	0.899	40.40	34.81	34.60
MCQ10507	0.975	0.105	2.500	40.95	1.363	0.984	36.00	34.81	30.80
MCQ10508	0.975	0.105	2.750	40.95	1.489	1.068	32.50	34.81	27.80
MCQ10509	0.975	0.105	3.000	40.95	1.614	1.153	29.60	34.81	25.30
MCQ10510	0.975	0.105	3.500	40.95	1.866	1.322	25.10	34.81	21.50
MCQ10511	0.975	0.105	4.000	40.95	2.118	1.490	21.80	34.81	18.60
MCQ11501	0.975	0.115	1.000	52.82	0.649	0.532	150.50	44.83	129.00
MCQ11502	0.975	0.115	1.250	52.82	0.785	0.630	113.60	44.83	97.40
MCQ11503	0.975	0.115	1.500	52.82	0.921	0.728	91.20	44.83	78.20
MCQ11504	0.975	0.115	1.750	52.82	1.057	0.826	76.20	44.83	65.30
MCQ11505	0.975	0.115	2.000	52.82	1.193	0.924	65.50	44.83	56.10
MCQ11506	0.975	0.115	2.250	52.82	1.329	1.022	57.40	44.83	49.20
MCQ11507	0.975	0.115	2.500	52.82	1.465	1.120	51.00	44.83	43.70
MCQ11508	0.975	0.115	2.750	52.82	1.601	1.219	46.00	44.83	39.40
MCQ11509	0.975	0.115	3.000	52.82	1.737	1.317	41.80	44.83	35.80
MCQ11510	0.975	0.115	3.500	52.82	2.010	1.513	35.40	44.83	30.40
MCQ11511	0.975	0.115	4.000	52.82	2.282	1.709	30.70	44.83	26.30
MCQ12501	0.975	0.125	1.000	66.37	0.689	0.585	213.20	56.22	182.80
MCQ12502	0.975	0.125	1.250	66.37	0.835	0.697	159.90	56.22	137.10
MCQ12503	0.975	0.125	1.500	66.37	0.981	0.808	127.90	56.22	109.70
MCQ12504	0.975	0.125	1.750	66.37	1.128	0.920	106.60	56.22	91.40
MCQ12505	0.975	0.125	2.000	66.37	1.274	1.032	91.40	56.22	78.30
MCQ12506	0.975	0.125	2.250	66.37	1.420	1.143	80.00	56.22	68.50
MCQ12508	0.975	0.125	2.500	66.37	1.566	1.255	71.10	56.22	60.90
MCQ12509	0.975	0.125	2.750	66.37	1.713	1.367	64.00	56.22	54.80
MCQ12509	0.975	0.125	3.000	66.37	1.859	1.478	58.20	56.22	49.80
MCQ12510	0.975	0.125	3.500	66.37	2.151	1.702	49.20	56.22	42.20
MCQ12511	0.975	0.125	4.000	66.37	2.444	1.925	42.60	56.22	36.60



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate

MCQ13501	0.975	0.135	1.000	82.93	0.724	0.632	300.40	66.33	250.60
MCQ13502	0.975	0.135	1.250	82.93	0.879	0.756	223.80	66.33	186.70
MCQ13503	0.975	0.135	1.500	82.93	1.035	0.880	178.30	66.33	148.80
MCQ13504	0.975	0.135	1.750	82.93	1.190	1.004	148.20	66.33	123.60
MCQ13505	0.975	0.135	2.000	82.93	1.346	1.128	126.80	66.33	105.80
MCQ13506	0.975	0.135	2.500	82.93	1.657	1.376	98.40	66.33	82.10
MCQ13507	0.975	0.135	3.000	82.93	1.968	1.624	80.30	66.33	67.00
MCQ13508	0.975	0.135	3.500	82.93	2.279	1.872	67.90	66.33	56.60
MCQ13509	0.975	0.135	4.000	82.93	2.590	2.120	58.80	66.33	49.10

MCQ14801	0.975	0.148	1.000	106.30	0.768	0.690	457.60	83.64	381.30
MCQ14802	0.975	0.148	1.250	106.30	0.935	0.830	337.70	83.64	281.40
MCQ14803	0.975	0.148	1.500	106.30	1.103	0.970	267.60	83.64	223.00
MCQ14804	0.975	0.148	1.750	106.30	1.270	1.111	221.60	83.64	184.60
MCQ14805	0.975	0.148	2.000	106.30	1.438	1.251	189.10	83.64	157.50
MCQ14806	0.975	0.148	2.500	106.30	1.773	1.531	146.20	83.64	121.80
MCQ14807	0.975	0.148	3.000	106.30	2.108	1.811	119.10	83.64	99.30
MCQ14808	0.975	0.148	3.500	106.30	2.443	2.091	100.50	83.64	83.80
MCQ14809	0.975	0.148	4.000	106.30	2.778	2.371	87.00	83.64	72.50

MCQ16201	0.975	0.162	1.500	142.90	1.156	1.042	415.80	110.80	346.30
MCQ16202	0.975	0.162	1.750	142.90	1.333	1.194	342.90	110.80	285.60
MCQ16203	0.975	0.162	2.000	142.90	1.510	1.347	291.80	110.80	243.00
MCQ16204	0.975	0.162	2.500	142.90	1.864	1.652	224.70	110.80	187.20
MCQ16205	0.975	0.162	3.000	142.90	2.218	1.957	182.70	110.80	152.20
MCQ16206	0.975	0.162	3.500	142.90	2.572	2.263	154.00	110.80	128.20
MCQ16207	0.975	0.162	4.000	142.90	2.926	2.568	133.00	110.80	110.80
MCQ16208	0.975	0.162	5.000	142.90	3.634	3.178	104.60	110.80	87.10

MCR08501	1.1	0.085	1.000	20.09	0.493	0.324	39.60	17.16	34.00
MCR08502	1.1	0.085	1.250	20.09	0.590	0.370	30.40	17.16	26.10
MCR08503	1.1	0.085	1.500	20.09	0.688	0.417	24.70	17.16	21.20
MCR08504	1.1	0.085	1.750	20.09	0.785	0.463	20.80	17.16	17.80
MCR08505	1.1	0.085	2.000	20.09	0.882	0.509	18.00	17.16	15.40
MCR08506	1.1	0.085	2.500	20.09	1.077	0.602	14.10	17.16	12.10
MCR08507	1.1	0.085	3.000	20.09	1.271	0.695	11.60	17.16	10.00
MCR08508	1.1	0.085	3.500	20.09	1.466	0.788	9.90	17.16	8.50
MCR08509	1.1	0.085	4.000	20.09	1.660	0.880	8.60	17.16	7.40
MCR08510	1.1	0.085	4.500	20.09	1.855	0.973	7.60	17.16	6.50

MCR09501	1.1	0.095	1.000	27.46	0.532	0.377	58.70	23.43	50.30
MCR09502	1.1	0.095	1.250	27.46	0.638	0.434	44.90	23.43	38.50
MCR09503	1.1	0.095	1.500	27.46	0.744	0.492	36.30	23.43	31.10
MCR09504	1.1	0.095	1.750	27.46	0.849	0.549	30.50	23.43	26.10
MCR09505	1.1	0.095	2.000	27.46	0.955	0.607	26.30	23.43	22.50
MCR09506	1.1	0.095	2.500	27.46	1.167	0.722	20.60	23.43	17.60
MCR09507	1.1	0.095	3.000	27.46	1.378	0.837	16.90	23.43	14.50
MCR09508	1.1	0.095	3.500	27.46	1.589	0.952	14.40	23.43	12.30
MCR09509	1.1	0.095	4.000	27.46	1.801	1.068	12.50	23.43	10.70
MCR09510	1.1	0.095	4.500	27.46	2.012	1.183	11.00	23.43	9.50



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate

MCR10501	1.1	0.105	1.000	36.40	0.572	0.429	85.00	31.04	72.90
MCR10502	1.1	0.105	1.250	36.40	0.686	0.498	64.60	31.04	55.40
MCR10503	1.1	0.105	1.500	36.40	0.801	0.568	52.10	31.04	44.60
MCR10504	1.1	0.105	1.750	36.40	0.915	0.637	43.60	31.04	37.40
MCR10505	1.1	0.105	2.000	36.40	1.030	0.706	37.50	31.04	32.20
MCR10506	1.1	0.105	2.500	36.40	1.259	0.845	29.30	31.04	25.10
MCR10507	1.1	0.105	3.000	36.40	1.488	0.984	24.10	31.04	20.60
MCR10508	1.1	0.105	3.500	36.40	1.717	1.122	20.40	31.04	17.50
MCR10509	1.1	0.105	4.000	36.40	1.946	1.261	17.70	31.04	15.20
MCR10510	1.1	0.105	4.500	36.40	2.175	1.400	15.70	31.04	13.40

MCR11501	1.1	0.115	1.000	47.02	0.610	0.481	120.70	39.98	103.40
MCR11502	1.1	0.115	1.250	47.02	0.734	0.562	91.10	39.98	78.10
MCR11503	1.1	0.115	1.500	47.02	0.858	0.643	73.20	39.98	62.70
MCR11504	1.1	0.115	1.750	47.02	0.981	0.725	61.10	39.98	52.40
MCR11505	1.1	0.115	2.000	47.02	1.105	0.806	52.50	39.98	45.00
MCR11506	1.1	0.115	2.500	47.02	1.352	0.969	40.90	39.98	35.10
MCR11507	1.1	0.115	3.000	47.02	1.599	1.132	33.60	39.98	28.70
MCR11508	1.1	0.115	3.500	47.02	1.846	1.294	28.40	39.98	24.30
MCR11509	1.1	0.115	4.000	47.02	2.093	1.457	24.70	39.98	21.10
MCR11510	1.1	0.115	4.500	47.02	2.340	1.620	21.80	39.98	18.60

MCR12501	1.1	0.125	1.000	59.07	0.649	0.532	168.10	50.21	144.10
MCR12502	1.1	0.125	1.250	59.07	0.782	0.625	126.10	50.21	108.10
MCR12503	1.1	0.125	1.500	59.07	0.914	0.719	100.90	50.21	86.50
MCR12504	1.1	0.125	1.750	59.07	1.047	0.813	84.10	50.21	72.10
MCR12505	1.1	0.125	2.000	59.07	1.180	0.907	72.10	50.21	61.80
MCR12506	1.1	0.125	2.500	59.07	1.446	1.095	56.00	50.21	48.00
MCR12507	1.1	0.125	3.000	59.07	1.712	1.282	45.90	50.21	39.30
MCR12508	1.1	0.125	3.500	59.07	1.977	1.470	38.80	50.21	33.30
MCR12509	1.1	0.125	4.000	59.07	2.243	1.658	33.60	50.21	28.80
MCR12510	1.1	0.125	4.500	59.07	2.509	1.845	29.70	50.21	25.40

MCR13501	1.1	0.135	1.500	72.13	0.972	0.795	136.50	61.14	117.00
MCR13502	1.1	0.135	1.750	72.13	1.114	0.902	113.40	61.14	97.20
MCR13503	1.1	0.135	2.000	72.13	1.257	1.009	97.10	61.14	83.20
MCR13504	1.1	0.135	2.500	72.13	1.542	1.223	75.30	61.14	64.50
MCR13505	1.1	0.135	3.000	72.13	1.827	1.436	61.50	61.14	52.70
MCR13506	1.1	0.135	3.500	72.13	2.112	1.650	52.00	61.14	44.50
MCR13507	1.1	0.135	4.000	72.13	2.398	1.863	45.00	61.14	38.60
MCR13508	1.1	0.135	4.500	72.13	2.683	2.077	39.70	61.14	34.00
MCR13509	1.1	0.135	5.000	72.13	2.968	2.291	35.50	61.14	30.40

MCS08501	1.225	0.085	1.500	15.96	0.670	0.394	19.20	13.18	16.00
MCS08502	1.225	0.085	2.000	15.96	0.858	0.478	14.00	13.18	11.60
MCS08503	1.225	0.085	2.500	15.96	1.046	0.562	11.00	13.18	9.10
MCS08504	1.225	0.085	3.000	15.96	1.235	0.646	9.00	13.18	7.50
MCS08505	1.225	0.085	3.500	15.96	1.423	0.730	7.70	13.18	6.40
MCS08506	1.225	0.085	4.000	15.96	1.611	0.814	6.70	13.18	5.60
MCS08507	1.225	0.085	4.500	15.96	1.799	0.898	5.90	13.18	4.90



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCS08508	1.225	0.085	5.000	15.96	1.987	0.983	5.30	13.18	4.40
MCS09501	1.225	0.095	1.000	24.74	0.508	0.343	50.20	21.12	43.00
MCS09502	1.225	0.095	1.250	24.74	0.606	0.391	38.40	21.12	32.90
MCS09503	1.225	0.095	1.500	24.74	0.704	0.438	31.10	21.12	26.60
MCS09504	1.225	0.095	1.750	24.74	0.802	0.485	26.10	21.12	22.40
MCS09505	1.225	0.095	2.000	24.74	0.900	0.533	22.50	21.12	19.30
MCS09506	1.225	0.095	2.500	24.74	1.096	0.628	17.60	21.12	15.10
MCS09507	1.225	0.095	3.000	24.74	1.292	0.722	14.50	21.12	12.40
MCS09508	1.225	0.095	3.500	24.74	1.488	0.817	12.30	21.12	10.50
MCS09509	1.225	0.095	4.000	24.74	1.684	0.912	10.70	21.12	9.20
MCS09510	1.225	0.095	4.500	24.74	1.880	1.006	9.40	21.12	8.10
MCS09511	1.225	0.095	5.000	24.74	2.076	1.101	8.50	21.12	7.20
MCS10501	1.225	0.105	1.000	32.80	0.544	0.392	71.90	28.00	61.60
MCS10502	1.225	0.105	1.250	32.80	0.649	0.449	54.60	28.00	46.80
MCS10503	1.225	0.105	1.500	32.80	0.755	0.507	44.00	28.00	37.70
MCS10504	1.225	0.105	1.750	32.80	0.861	0.564	36.90	28.00	31.60
MCS10505	1.225	0.105	2.000	32.80	0.966	0.622	31.70	28.00	27.20
MCS10506	1.225	0.105	2.500	32.80	1.177	0.737	24.80	28.00	21.30
MCS10507	1.225	0.105	3.000	32.80	1.389	0.852	20.40	28.00	17.50
MCS10508	1.225	0.105	3.500	32.80	1.600	0.967	17.30	28.00	14.80
MCS10509	1.225	0.105	4.000	32.80	1.811	1.082	15.00	28.00	12.80
MCS10510	1.225	0.105	4.500	32.80	2.022	1.196	13.20	28.00	11.30
MCS10511	1.225	0.105	5.000	32.80	2.234	1.311	11.90	28.00	10.20
MCS11501	1.225	0.115	1.000	42.37	0.580	0.440	100.80	36.12	86.40
MCS11502	1.225	0.115	1.250	42.37	0.693	0.508	76.10	36.12	65.20
MCS11503	1.225	0.115	1.500	42.37	0.807	0.576	61.10	36.12	52.40
MCS11504	1.225	0.115	1.750	42.37	0.920	0.644	51.10	36.12	43.80
MCS11505	1.225	0.115	2.000	42.37	1.034	0.712	43.90	36.12	37.60
MCS11506	1.225	0.115	2.500	42.37	1.261	0.848	34.20	36.12	29.30
MCS11507	1.225	0.115	3.000	42.37	1.488	0.984	28.00	36.12	24.00
MCS11508	1.225	0.115	3.500	42.37	1.715	1.120	23.70	36.12	20.30
MCS11509	1.225	0.115	4.000	42.37	1.942	1.257	20.60	36.12	17.60
MCS11510	1.225	0.115	4.500	42.37	2.170	1.393	18.20	36.12	15.60
MCS11511	1.225	0.115	5.000	42.37	2.397	1.529	16.30	36.12	13.90
MCS12501	1.225	0.125	1.000	53.27	0.616	0.488	138.60	45.35	118.80
MCS12502	1.225	0.125	1.250	53.27	0.738	0.567	104.00	45.35	89.10
MCS12503	1.225	0.125	1.500	53.27	0.860	0.646	83.20	45.35	71.30
MCS12504	1.225	0.125	1.750	53.27	0.982	0.725	69.30	45.35	59.40
MCS12505	1.225	0.125	2.000	53.27	1.104	0.805	59.40	45.35	50.90
MCS12506	1.225	0.125	2.500	53.27	1.347	0.963	46.20	45.35	39.60
MCS12507	1.225	0.125	3.000	53.27	1.591	1.122	37.80	45.35	32.40
MCS12508	1.225	0.125	3.500	53.27	1.835	1.280	32.00	45.35	27.40
MCS12509	1.225	0.125	4.000	53.27	2.079	1.439	27.70	45.35	23.80
MCS12510	1.225	0.125	4.500	53.27	2.323	1.597	24.50	45.35	21.00
MCS12511	1.225	0.125	5.000	53.27	2.567	1.756	21.90	45.35	18.80
MCS13501	1.225	0.135	1.000	65.15	0.652	0.536	187.20	55.36	160.40



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCS13502	1.225	0.135	1.250	65.15	0.783	0.627	139.40	55.36	119.50
MCS13503	1.225	0.135	1.500	65.15	0.914	0.718	111.10	55.36	95.20
MCS13504	1.225	0.135	1.750	65.15	1.044	0.809	92.30	55.36	79.10
MCS13505	1.225	0.135	2.000	65.15	1.175	0.900	79.00	55.36	67.70
MCS13506	1.225	0.135	2.500	65.15	1.437	1.082	61.30	55.36	52.50
MCS13507	1.225	0.135	3.000	65.15	1.698	1.264	50.10	55.36	42.90
MCS13508	1.225	0.135	3.500	65.15	1.960	1.447	42.30	55.36	36.30
MCS13509	1.225	0.135	4.000	65.15	2.222	1.629	36.60	55.36	31.40
MCS13510	1.225	0.135	4.500	65.15	2.483	1.811	32.30	55.36	27.70
MCS13511	1.225	0.135	5.000	65.15	2.745	1.993	28.90	55.36	24.80
MCS14801	1.225	0.148	1.000	84.76	0.694	0.591	276.60	71.87	237.00
MCS14802	1.225	0.148	1.250	84.76	0.835	0.696	204.10	71.87	174.90
MCS14803	1.225	0.148	1.500	84.76	0.976	0.801	161.70	71.87	138.60
MCS14804	1.225	0.148	1.750	84.76	1.117	0.906	133.90	71.87	114.80
MCS14805	1.225	0.148	2.000	84.76	1.258	1.011	114.30	71.87	97.90
MCS14806	1.225	0.148	2.500	84.76	1.541	1.221	88.30	71.87	75.70
MCS14807	1.225	0.148	3.000	84.76	1.823	1.431	72.00	71.87	61.70
MCS14808	1.225	0.148	3.500	84.76	2.105	1.640	60.80	71.87	52.10
MCS14809	1.225	0.148	4.000	84.76	2.388	1.850	52.60	71.87	45.10
MCS14810	1.225	0.148	4.500	84.76	2.670	2.060	46.30	71.87	39.70
MCS14811	1.225	0.148	5.000	84.76	2.952	2.270	41.40	71.87	35.50
MCS16201	1.225	0.162	1.000	110.20	0.734	0.646	415.00	88.20	345.70
MCS16202	1.225	0.162	1.250	110.20	0.886	0.765	302.90	88.20	252.40
MCS16203	1.225	0.162	1.500	110.20	1.038	0.884	238.50	88.20	198.70
MCS16204	1.225	0.162	1.750	110.20	1.190	1.003	196.70	88.20	163.90
MCS16205	1.225	0.162	2.000	110.20	1.341	1.122	167.40	88.20	139.50
MCS16206	1.225	0.162	2.500	110.20	1.645	1.360	128.90	88.20	107.40
MCS16207	1.225	0.162	3.000	110.20	1.948	1.598	104.80	88.20	87.30
MCS16208	1.225	0.162	3.500	110.20	2.252	1.836	88.30	88.20	73.60
MCS16209	1.225	0.162	4.000	110.20	2.555	2.074	76.30	88.20	63.60
MCS16210	1.225	0.162	4.500	110.20	2.859	2.312	67.20	88.20	56.00
MCS16211	1.225	0.162	5.000	110.20	3.162	2.550	60.00	88.20	50.00
MCS17701	1.225	0.177	1.500	140.20	1.102	0.970	352.40	111.34	294.20
MCS17702	1.225	0.177	2.000	140.20	1.429	1.238	245.40	111.34	204.80
MCS17703	1.225	0.177	2.500	140.20	1.755	1.507	188.20	111.34	157.10
MCS17704	1.225	0.177	3.000	140.20	2.082	1.775	152.60	111.34	127.40
MCS17705	1.225	0.177	3.500	140.20	2.408	2.044	128.40	111.34	107.20
MCS17706	1.225	0.177	4.000	140.20	2.734	2.313	110.80	111.34	92.50
MCS17707	1.225	0.177	4.500	140.20	3.061	2.581	97.40	111.34	81.30
MCS17708	1.225	0.177	5.000	140.20	3.387	2.850	86.90	111.34	72.60
MCS17709	1.225	0.177	6.000	140.20	4.040	3.387	71.50	111.34	59.70
MCS19201	1.225	0.192	1.500	177.50	1.157	1.042	516.90	133.60	430.70
MCS19202	1.225	0.192	2.000	177.50	1.503	1.337	357.00	133.60	297.40
MCS19203	1.225	0.192	2.500	177.50	1.849	1.632	272.60	133.60	227.10
MCS19204	1.225	0.192	3.000	177.50	2.195	1.927	220.50	133.60	183.70
MCS19205	1.225	0.192	3.500	177.50	2.541	2.222	185.10	133.60	154.20
MCS19206	1.225	0.192	4.000	177.50	2.888	2.517	159.50	133.60	132.90



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCS19207	1.225	0.192	4.500	177.50	3.234	2.812	140.20	133.60	116.80
MCS19208	1.225	0.192	5.000	177.50	3.580	3.107	125.00	133.60	104.10
MCS19209	1.225	0.192	6.000	177.50	4.272	3.696	102.70	133.60	85.60
MCS20701	1.225	0.207	2.000	213.30	1.578	1.438	505.90	163.80	421.60
MCS20702	1.225	0.207	2.500	213.30	1.945	1.760	384.60	163.80	320.60
MCS20703	1.225	0.207	3.000	213.30	2.312	2.083	310.30	163.80	258.60
MCS20704	1.225	0.207	3.500	213.30	2.679	2.406	260.00	163.80	216.70
MCS20705	1.225	0.207	4.000	213.30	3.046	2.729	223.70	163.80	186.50
MCS20706	1.225	0.207	4.500	213.30	3.414	3.051	196.40	163.80	163.60
MCS20707	1.225	0.207	5.000	213.30	3.781	3.374	174.90	163.80	145.80
MCS20708	1.225	0.207	6.000	213.30	4.515	4.020	143.60	163.80	119.70
MCT11501	1.46	0.115	1.500	35.73	0.738	0.484	46.90	30.52	40.20
MCT11502	1.46	0.115	2.000	35.73	0.937	0.583	33.60	30.52	28.80
MCT11503	1.46	0.115	2.500	35.73	1.137	0.683	26.20	30.52	22.50
MCT11504	1.46	0.115	3.000	35.73	1.337	0.783	21.50	30.52	18.40
MCT11505	1.46	0.115	3.500	35.73	1.537	0.883	18.20	30.52	15.60
MCT11506	1.46	0.115	4.000	35.73	1.737	0.983	15.80	30.52	13.50
MCT11507	1.46	0.115	4.500	35.73	1.937	1.082	13.90	30.52	11.90
MCT11508	1.46	0.115	5.000	35.73	2.137	1.182	12.50	30.52	10.70
MCT11509	1.46	0.115	6.000	35.73	2.536	1.382	10.30	30.52	8.80
MCT13501	1.46	0.135	1.500	55.15	0.830	0.607	82.30	46.97	70.50
MCT13502	1.46	0.135	2.000	55.15	1.058	0.744	58.50	46.97	50.10
MCT13503	1.46	0.135	2.500	55.15	1.285	0.880	45.40	46.97	38.90
MCT13504	1.46	0.135	3.000	55.15	1.513	1.017	37.10	46.97	31.80
MCT13505	1.46	0.135	3.500	55.15	1.741	1.154	31.30	46.97	26.80
MCT13506	1.46	0.135	4.000	55.15	1.968	1.291	27.10	46.97	23.20
MCT13507	1.46	0.135	4.500	55.15	2.196	1.428	23.90	46.97	20.50
MCT13508	1.46	0.135	5.000	55.15	2.423	1.565	21.40	46.97	18.30
MCT13509	1.46	0.135	6.000	55.15	2.879	1.838	17.70	46.97	15.10
MCT15601	1.46	0.156	1.500	82.84	0.922	0.730	143.40	70.44	122.90
MCT15602	1.46	0.156	2.000	82.84	1.179	0.905	100.90	70.44	86.50
MCT15603	1.46	0.156	2.500	82.84	1.436	1.081	77.90	70.44	66.70
MCT15604	1.46	0.156	3.000	82.84	1.693	1.257	63.40	70.44	54.30
MCT15605	1.46	0.156	3.500	82.84	1.950	1.433	53.40	70.44	45.80
MCT15606	1.46	0.156	4.000	82.84	2.207	1.609	46.20	70.44	39.60
MCT15607	1.46	0.156	4.500	82.84	2.463	1.784	40.70	70.44	34.90
MCT15608	1.46	0.156	5.000	82.84	2.720	1.960	36.30	70.44	31.10
MCT15609	1.46	0.156	6.000	82.84	3.234	2.312	29.90	70.44	25.70
MCT17701	1.46	0.177	1.500	117.30	1.011	0.847	239.70	99.44	205.40
MCT17702	1.46	0.177	2.000	117.30	1.297	1.063	166.90	99.44	143.00
MCT17703	1.46	0.177	2.500	117.30	1.583	1.278	128.00	99.44	109.70
MCT17704	1.46	0.177	3.000	117.30	1.870	1.493	103.80	99.44	89.00
MCT17705	1.46	0.177	3.500	117.30	2.156	1.708	87.30	99.44	74.80
MCT17706	1.46	0.177	4.000	117.30	2.443	1.924	75.30	99.44	64.60
MCT17707	1.46	0.177	4.500	117.30	2.729	2.139	66.30	99.44	56.80
MCT17708	1.46	0.177	5.000	117.30	3.016	2.354	59.10	99.44	50.70



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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCT17709	1.46	0.177	6.000	117.30	3.588	2.785	48.60	99.44	41.70
MCT19201	1.46	0.192	2.500	151.40	1.670	1.393	182.30	121.20	152.00
MCT19202	1.46	0.192	3.000	151.40	1.974	1.632	147.50	121.20	122.90
MCT19203	1.46	0.192	3.500	151.40	2.277	1.870	123.80	121.20	103.20
MCT19204	1.46	0.192	4.000	151.40	2.581	2.108	106.70	121.20	88.90
MCT19205	1.46	0.192	4.500	151.40	2.885	2.347	93.70	121.20	78.10
MCT19206	1.46	0.192	5.000	151.40	3.189	2.585	83.60	121.20	69.70
MCT19207	1.46	0.192	6.000	151.40	3.797	3.062	68.70	121.20	57.30
MCU13501	1.687	0.135	1.500	47.97	0.773	0.531	66.00	40.94	56.60
MCU13502	1.687	0.135	2.000	47.97	0.978	0.637	46.90	40.94	40.20
MCU13503	1.687	0.135	2.500	47.97	1.183	0.744	36.40	40.94	31.20
MCU13504	1.687	0.135	3.000	47.97	1.387	0.850	29.70	40.94	25.50
MCU13505	1.687	0.135	3.500	47.97	1.592	0.956	25.10	40.94	21.50
MCU13506	1.687	0.135	4.000	47.97	1.797	1.062	21.80	40.94	18.70
MCU13507	1.687	0.135	4.500	47.97	2.001	1.168	19.20	40.94	16.40
MCU13508	1.687	0.135	5.000	47.97	2.206	1.274	17.20	40.94	14.70
MCU15601	1.687	0.156	1.500	72.14	0.857	0.642	112.10	61.50	96.10
MCU15602	1.687	0.156	2.000	72.14	1.086	0.781	78.90	61.50	67.60
MCU15603	1.687	0.156	2.500	72.14	1.315	0.920	60.90	61.50	52.20
MCU15604	1.687	0.156	3.000	72.14	1.544	1.059	49.60	61.50	42.50
MCU15605	1.687	0.156	3.500	72.14	1.773	1.198	41.80	61.50	35.80
MCU15606	1.687	0.156	4.000	72.14	2.003	1.337	36.10	61.50	31.00
MCU15607	1.687	0.156	4.500	72.14	2.232	1.476	31.80	61.50	27.30
MCU15608	1.687	0.156	5.000	72.14	2.461	1.615	28.40	61.50	24.40
MCU17701	1.687	0.177	1.500	102.30	0.939	0.752	182.30	87.00	156.30
MCU17702	1.687	0.177	2.000	102.30	1.194	0.925	127.00	87.00	108.80
MCU17703	1.687	0.177	2.500	102.30	1.449	1.099	97.40	87.00	83.40
MCU17704	1.687	0.177	3.000	102.30	1.704	1.272	79.00	87.00	67.70
MCU17705	1.687	0.177	3.500	102.30	1.959	1.446	66.40	87.00	56.90
MCU17706	1.687	0.177	4.000	102.30	2.215	1.620	57.30	87.00	49.10
MCU17707	1.687	0.177	4.500	102.30	2.470	1.793	50.40	87.00	43.20
MCU17708	1.687	0.177	5.000	102.30	2.725	1.967	45.00	87.00	38.50
MCU19201	1.687	0.192	1.500	130.10	0.992	0.822	256.00	110.40	219.40
MCU19202	1.687	0.192	2.000	130.10	1.264	1.019	176.80	110.40	151.50
MCU19203	1.687	0.192	2.500	130.10	1.536	1.215	135.00	110.40	115.70
MCU19204	1.687	0.192	3.000	130.10	1.809	1.412	109.20	110.40	93.60
MCU19205	1.687	0.192	3.500	130.10	2.081	1.608	91.70	110.40	78.60
MCU19206	1.687	0.192	4.000	130.10	2.353	1.805	79.00	110.40	67.70
MCU19207	1.687	0.192	4.500	130.10	2.626	2.001	69.40	110.40	59.50
MCU19208	1.687	0.192	5.000	130.10	2.898	2.197	61.90	110.40	53.00
MCW15601	1.937	0.156	2.000	63.13	1.010	0.681	63.80	53.92	54.70
MCW15602	1.937	0.156	2.500	63.13	1.217	0.790	49.20	53.92	42.20
MCW15603	1.937	0.156	3.000	63.13	1.424	0.899	40.10	53.92	34.40
MCW15604	1.937	0.156	3.500	63.13	1.631	1.008	33.80	53.92	29.00
MCW15605	1.937	0.156	4.000	63.13	1.838	1.117	29.20	53.92	25.00



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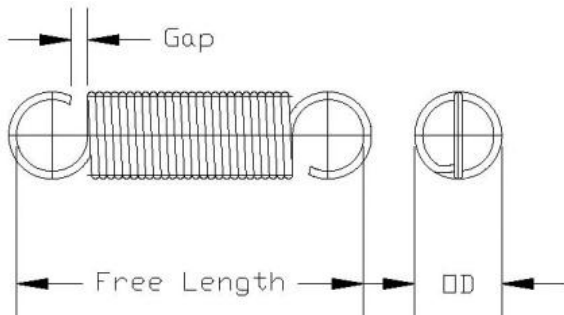
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Stock Compression Springs

Stock Number	Music Wire							Stainless Steel	
	Outside Diameter	Wire Diameter	Free Length	Load at L1	Length at L1	Approx. Solid Ht	Spring Rate	Load at L1	Spring Rate
MCW15606	1.937	0.156	4.500	63.13	2.045	1.226	25.70	53.92	22.00
MCW15607	1.937	0.156	5.000	63.13	2.252	1.335	23.00	53.92	19.70
MCW15608	1.937	0.156	5.500	63.13	2.458	1.445	20.80	53.92	17.80
MCW15609	1.937	0.156	6.000	63.13	2.665	1.554	18.90	53.92	16.20
MCW18701	1.937	0.187	2.000	105.50	1.151	0.868	124.20	89.85	106.50
MCW18702	1.937	0.187	2.500	105.50	1.390	1.020	95.00	89.85	81.40
MCW18703	1.937	0.187	3.000	105.50	1.629	1.171	76.90	89.85	65.90
MCW18704	1.937	0.187	3.500	105.50	1.867	1.323	64.60	89.85	55.40
MCW18705	1.937	0.187	4.000	105.50	2.106	1.475	55.70	89.85	47.70
MCW18706	1.937	0.187	4.500	105.50	2.345	1.627	49.00	89.85	42.00
MCW18707	1.937	0.187	5.000	105.50	2.584	1.779	43.70	89.85	37.40
MCW18708	1.937	0.187	5.500	105.50	2.823	1.931	39.40	89.85	33.80
MCW18709	1.937	0.187	6.000	105.50	3.062	2.082	35.90	89.85	30.80
MCW20701	1.937	0.207	2.500	138.30	1.505	1.173	139.00	117.50	119.10
MCW20702	1.937	0.207	3.000	138.30	1.766	1.355	112.10	117.50	96.10
MCW20703	1.937	0.207	3.500	138.30	2.028	1.537	94.00	117.50	80.50
MCW20704	1.937	0.207	4.000	138.30	2.289	1.719	80.90	117.50	69.30
MCW20705	1.937	0.207	4.500	138.30	2.551	1.901	71.00	117.50	60.80
MCW20706	1.937	0.207	5.000	138.30	2.812	2.083	63.20	117.50	54.20
MCW20707	1.937	0.207	5.500	138.30	3.074	2.265	57.00	117.50	48.90
MCW20708	1.937	0.207	6.000	138.30	3.335	2.447	51.90	117.50	44.50
MCW22501	1.937	0.225	2.500	174.70	1.600	1.301	194.20	148.20	166.40
MCW22502	1.937	0.225	3.000	174.70	1.881	1.508	156.10	148.20	133.80
MCW22503	1.937	0.225	3.500	174.70	2.162	1.716	130.50	148.20	111.90
MCW22504	1.937	0.225	4.000	174.70	2.442	1.923	112.20	148.20	96.10
MCW22505	1.937	0.225	4.500	174.70	2.723	2.130	98.30	148.20	84.30
MCW22506	1.937	0.225	5.000	174.70	3.003	2.338	87.50	148.20	75.00
MCW22507	1.937	0.225	5.500	174.70	3.284	2.545	78.80	148.20	67.60
MCW22508	1.937	0.225	6.000	174.70	3.565	2.753	71.70	148.20	61.50
MCW25001	1.937	0.250	2.500	255.80	1.692	1.423	316.80	190.70	254.30
MCW25002	1.937	0.250	3.000	255.80	1.990	1.654	253.40	190.70	203.40
MCW25003	1.937	0.250	3.500	255.80	2.288	1.885	211.20	190.70	169.50
MCW25004	1.937	0.250	4.000	255.80	2.587	2.115	181.00	190.70	145.30
MCW25005	1.937	0.250	5.000	255.80	3.183	2.577	140.80	190.70	113.00
MCW25006	1.937	0.250	6.000	255.80	3.779	3.038	115.20	190.70	92.50
MCW25007	1.937	0.250	7.000	255.80	4.375	3.500	97.50	190.70	78.20

EXTENSION SPRINGS

Helical extension springs exert a force by pulling or stretching them. Usually, they are made from round wire and are close-wound with initial tension between the coils. Their ends can be formed with loops in many varieties to attach to their applications.



Spring Terms

OD = Outside Diameter

D = Mean Diameter

d = wire diameter

N_a = number of active coils

R = Spring Rate

P = applied force

S_t = torsional stress

S_b = bending stress (in loops)

IT = initial tension

c = spring index

ΔL = deflection

XLP = cross center loops

MLP = machine loops

UTS = Ultimate Tensile Strength

Common Spring Materials	Max Recommended % Tensile	
	S_t	S_b
Music Wire	45	75
Chrome Silicon	45	75
Chrome Vanadium	45	75
302 Stainless Steel	35	55
316 Stainless Steel	35	55
17-7 Stainless Steel	45	75

Types of Ends

The two most common types of loops are cross center and machine. However, loops can be made to virtually any configuration required.



Cross Center Loop



Machine Loop

Calculations

$$D = OD - d$$

$$R = \frac{Gd^4}{8d^3N_a} \quad \text{and} \quad P = IT + (R * \Delta L)$$

$$S_t = \left(\frac{8 * D * P}{\pi * d^3} \right) * \left(\frac{4 * c - 1}{4 * c - 4} \right) + \frac{4 * P}{\pi * d^2}$$

$$S_b = \left(\frac{16 * D * P}{\pi * d^3} \right) * \left(\frac{4 * c^2 - c - 1}{4 * c * (c - 1)} \right)$$

$$\% \text{ tensile} = 100 \times \frac{S}{UTS}$$

*See tables for MTS

Design tips

- The highest stressed point in an extension spring is where it bends to form the loop. These stresses can be difficult to calculate and you should contact M&R for critical applications
- Don't forget initial tension when calculating spring force
- The initial tension should be held between 40% and 80% of UTS for best control
- Free length is measured inside hook to inside hook

EXTENSION SPRINGS

Tolerances

The following tables give tolerances that can be used as a reference. Actual manufacturing tolerances will depend on the spring specifics. Usually Murphy and Read can manufacture to tolerances 25% smaller than the Spring Manufacturers Institute(SMI) Guidelines.

Outside Diameter Tolerances

Wire Diameter (in)	Spring Index, D/d						
	4	6	8	10	12	14	16
0.015	0.002	0.002	0.003	0.004	0.005	0.006	0.007
0.023	0.002	0.003	0.004	0.006	0.007	0.008	0.01
0.035	0.002	0.004	0.006	0.007	0.009	0.011	0.013
0.051	0.003	0.005	0.007	0.01	0.012	0.015	0.017
0.076	0.004	0.007	0.01	0.013	0.016	0.019	0.022
0.114	0.006	0.009	0.013	0.018	0.021	0.025	0.029
0.171	0.008	0.012	0.017	0.023	0.028	0.033	0.038
0.25	0.011	0.015	0.021	0.028	0.035	0.042	0.049
0.375	0.016	0.02	0.026	0.037	0.046	0.054	0.064
0.5	0.021	0.03	0.04	0.062	0.08	0.1	0.125

Spring Free Length Tolerances	
.5 in or less	0.02
0.5" to 1.0"	0.03
1" to 2.0"	0.04
2" to 4"	0.06
4" to 8"	0.093
8" to 16"	0.156
16" to 24"	0.218

- Spring rate Tolerance $\pm 10\%$
- Load at length tolerance $\pm 10\%$

Standard Extension Springs

Selection

Extension Springs are organized in order of increasing diameter and wire size. Note that in each category the spring rate decreases as the length increases.

After identifying the proper outside diameter of the spring needed, select a range for wire diameter and free length. The broader the range of values selected the more options will be offered.

Maximum Load & Extension

The maximum loads and extended lengths are provided as a precautionary guide. They are based on a stress of 35% of tensile which is good for most applications. Even though most of these springs could be used beyond the listed lengths in light applications, there is a higher probability that the spring will deform or the loop will fail.

Determining Loads at any Length

To determine loads at lengths other than the maximum extended length multiply the amount of extension beyond the free length by the spring rate and add the initial tension.

If a spring is 1" long, has a rate of 2 lbs per inch and the initial tension is .6 lbs, what is the load at 1 3/4 inches?

$$\text{Load} = (1 \frac{3}{4} - 1) \times 2 + .6 = 2.10 \text{ lbs}$$

Ends

Machine or X-Center Loops - Random Position.

Special loops, gaps and position can be furnished upon request. The cost for special ends is based on difficulty and quantity required.

Material

Music Wire: ASTM-A228

250 degree maximum operating temperature.

Stainless Steel Type 302: ASTM-A313

500 degree maximum operating temperature.

Finish

Plain finish. Special finishes including Plating, Shot Peening and Passivation can be supplied on request. Please allow additional time.

Certification

Certificate of conformance to our specification, copies of dimensional and load testing and material certification are available at additional cost.

Tolerances

Spring Rate $\pm 10\%$
Load at Max. Length $\pm 10\%$

Outside Diameter
0.063 to 0.119 ± 0.003
0.120 to 0.240 ± 0.005
0.241 to 0.500 ± 0.008
0.501 to 1.000 ± 0.015
1.001 to 1.225 ± 0.020
1.226 to 1.460 ± 0.030
1.461 to 2.000 ± 0.040

Custom Extension Springs

If you are unable to find a suitable spring in our stock selection, please contact our engineering department for assistance.

Continuous Length Extension Springs

Wound in a continuous coil, use these springs as is or cut down to size for a custom extension spring. To determine your custom spring rate, divide the 1" spring rate by your new cut down length.



1" Spring Rate

Stock Number	Outside Diameter	Wire Diameter	Overall Length	Music Wire	Stainless Steel
MEC014	0.12	0.014	36	0.64	0.557
MEC018		0.018		2.514	2.186
MEC022		0.022		7.702	6.697
MEE020	0.18	0.02	36	1.1	0.957
MEE029		0.029		8.3	7.23
MEE035		0.035		23.9	20.8
MEG029	0.24	0.029	36	3.05	2.65
MEG035		0.035		8.46	7.36
MEG041		0.041		20.3	17.65
MEI035	0.36	0.035	36	2.125	1.85
MEI041		0.041		4.92	4.29
MEI055		0.055		24.2	21
MEM041	0.5	0.041	36	1.6	1.4
MEM055		0.055		7.8	6.9
MEM063		0.063		16.1	14
MEO063	0.75	0.063	36	4.1	3.6
MEO075		0.075		10.3	9
MEO105		0.105		61.9	53.8
MEP063	0.875	0.063	36	2.5	2.18
MEP075		0.075		6.2	5.4
MEP085		0.085		11.9	10.4
MEQ075	1	0.075	36	4	3.5
MEQ095		0.095		13.7	11.9
MEQ125		0.125		58.2	50.6
MER085	1.125	0.085	36	5.2	4.5
MER105		0.105		15.6	13.6
MER125		0.125		39	33.9
MES095	1.25	0.095	36	6.6	5.7
MES115		0.115		17.7	15.4
MES135		0.135		41	35.6



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXA00701	0.063	0.007	0.250	0.28	0.53	0.02	0.94	0.23	0.51	0.02	0.82
MXA00702	0.063	0.007	0.313	0.28	0.71	0.02	0.65	0.23	0.69	0.02	0.57
MXA00703	0.063	0.007	0.375	0.28	0.90	0.02	0.50	0.23	0.86	0.02	0.44
MXA00704	0.063	0.007	0.438	0.28	1.08	0.02	0.41	0.23	1.04	0.02	0.36
MXA00705	0.063	0.007	0.500	0.28	1.26	0.02	0.34	0.23	1.21	0.02	0.30
MXA00801	0.063	0.008	0.250	0.41	0.46	0.03	1.86	0.34	0.44	0.02	1.61
MXA00802	0.063	0.008	0.313	0.41	0.61	0.03	1.30	0.34	0.59	0.02	1.13
MXA00803	0.063	0.008	0.375	0.41	0.76	0.03	1.01	0.34	0.73	0.02	0.87
MXA00804	0.063	0.008	0.438	0.41	0.91	0.03	0.82	0.34	0.88	0.02	0.71
MXA00805	0.063	0.008	0.500	0.41	1.06	0.03	0.69	0.34	1.02	0.02	0.60
MXA00806	0.063	0.008	0.625	0.41	1.36	0.03	0.53	0.34	1.31	0.02	0.46
MXA00807	0.063	0.008	0.750	0.41	1.66	0.03	0.42	0.34	1.60	0.02	0.37
MXA00901	0.063	0.009	0.250	0.58	0.40	0.05	3.57	0.48	0.39	0.04	3.10
MXA00902	0.063	0.009	0.313	0.58	0.52	0.05	2.52	0.48	0.51	0.04	2.19
MXA00903	0.063	0.009	0.375	0.58	0.65	0.05	1.95	0.48	0.63	0.04	1.70
MXA00904	0.063	0.009	0.438	0.58	0.77	0.05	1.59	0.48	0.76	0.04	1.38
MXA00905	0.063	0.009	0.500	0.58	0.90	0.05	1.34	0.48	0.88	0.04	1.17
MXA00906	0.063	0.009	0.625	0.58	1.14	0.05	1.02	0.48	1.12	0.04	0.89
MXA00907	0.063	0.009	0.750	0.58	1.39	0.05	0.83	0.48	1.36	0.04	0.72
MXB01001	0.094	0.010	0.375	0.53	0.83	0.04	1.09	0.44	0.81	0.03	0.95
MXB01002	0.094	0.010	0.438	0.53	1.03	0.04	0.84	0.44	1.00	0.03	0.73
MXB01003	0.094	0.010	0.500	0.53	1.22	0.04	0.69	0.44	1.19	0.03	0.60
MXB01004	0.094	0.010	0.625	0.53	1.61	0.04	0.51	0.44	1.56	0.03	0.44
MXB01005	0.094	0.010	0.750	0.53	2.00	0.04	0.40	0.44	1.94	0.03	0.35
MXB01006	0.094	0.010	0.875	0.53	2.39	0.04	0.33	0.44	2.32	0.03	0.29
MXB01007	0.094	0.010	1.000	0.53	2.78	0.04	0.28	0.44	2.69	0.03	0.24
MXB01101	0.094	0.011	0.375	0.69	0.73	0.05	1.84	0.57	0.71	0.04	1.60
MXB01102	0.094	0.011	0.438	0.69	0.89	0.05	1.43	0.57	0.87	0.04	1.24
MXB01103	0.094	0.011	0.500	0.69	1.05	0.05	1.17	0.57	1.03	0.04	1.02
MXB01104	0.094	0.011	0.625	0.69	1.37	0.05	0.86	0.57	1.34	0.04	0.75
MXB01105	0.094	0.011	0.750	0.69	1.70	0.05	0.68	0.57	1.66	0.04	0.59
MXB01106	0.094	0.011	0.875	0.69	2.02	0.05	0.56	0.57	1.97	0.04	0.49
MXB01107	0.094	0.011	1.000	0.69	2.34	0.05	0.48	0.57	2.29	0.04	0.42
MXB01201	0.094	0.012	0.375	0.88	0.66	0.08	2.88	0.74	0.65	0.06	2.50
MXB01202	0.094	0.012	0.438	0.88	0.80	0.08	2.25	0.74	0.78	0.06	1.95
MXB01203	0.094	0.012	0.500	0.88	0.94	0.08	1.85	0.74	0.92	0.06	1.60
MXB01204	0.094	0.012	0.625	0.88	1.22	0.08	1.36	0.74	1.20	0.06	1.18
MXB01205	0.094	0.012	0.750	0.88	1.50	0.08	1.07	0.74	1.47	0.06	0.93
MXB01206	0.094	0.012	0.875	0.88	1.78	0.08	0.89	0.74	1.75	0.06	0.77
MXB01207	0.094	0.012	1.000	0.88	2.07	0.08	0.76	0.74	2.03	0.06	0.66
MXB01301	0.094	0.013	0.375	1.12	0.61	0.11	4.42	0.95	0.60	0.09	3.84
MXB01302	0.094	0.013	0.438	1.12	0.73	0.11	3.46	0.95	0.72	0.09	3.01
MXB01303	0.094	0.013	0.500	1.12	0.86	0.11	2.85	0.95	0.85	0.09	2.48
MXB01304	0.094	0.013	0.625	1.12	1.11	0.11	2.10	0.95	1.09	0.09	1.83
MXB01305	0.094	0.013	0.750	1.12	1.36	0.11	1.66	0.95	1.34	0.09	1.45



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXB01306	0.094	0.013	0.875	1.12	1.61	0.11	1.38	0.95	1.59	0.09	1.20
MXB01307	0.094	0.013	1.000	1.12	1.87	0.11	1.17	0.95	1.84	0.09	1.02

MXB01401	0.094	0.014	0.375	1.37	0.56	0.14	6.57	1.16	0.56	0.11	5.71
MXB01402	0.094	0.014	0.438	1.37	0.68	0.14	5.15	1.16	0.67	0.11	4.48
MXB01403	0.094	0.014	0.500	1.37	0.79	0.14	4.25	1.16	0.78	0.11	3.69
MXB01404	0.094	0.014	0.625	1.37	1.02	0.14	3.14	1.16	1.01	0.11	2.73
MXB01405	0.094	0.014	0.750	1.37	1.25	0.14	2.49	1.16	1.23	0.11	2.17
MXB01406	0.094	0.014	0.875	1.37	1.48	0.14	2.06	1.16	1.46	0.11	1.79
MXB01407	0.094	0.014	1.000	1.37	1.70	0.14	1.76	1.16	1.68	0.11	1.53

MXC01401	0.120	0.014	0.625	1.08	1.28	0.08	1.50	0.92	1.27	0.07	1.30
MXC01402	0.120	0.014	0.750	1.08	1.60	0.08	1.20	0.92	1.58	0.07	1.00
MXC01403	0.120	0.014	0.875	1.08	1.92	0.08	1.00	0.92	1.89	0.07	0.80
MXC01404	0.120	0.014	1.000	1.08	2.24	0.08	0.80	0.92	2.20	0.07	0.70
MXC01405	0.120	0.014	1.125	1.08	2.55	0.08	0.70	0.92	2.51	0.07	0.60
MXC01406	0.120	0.014	1.250	1.08	2.87	0.08	0.60	0.92	2.83	0.07	0.50
MXC01407	0.120	0.014	1.375	1.08	3.19	0.08	0.60	0.92	3.14	0.07	0.50
MXC01408	0.120	0.014	1.500	1.08	3.51	0.08	0.50	0.92	3.45	0.07	0.40

MXC01601	0.120	0.016	0.375	1.58	0.57	0.16	7.30	1.35	0.57	0.13	6.30
MXC01602	0.120	0.016	0.438	1.58	0.70	0.16	5.40	1.35	0.70	0.13	4.70
MXC01603	0.120	0.016	0.500	1.58	0.83	0.16	4.30	1.35	0.82	0.13	3.80
MXC01604	0.120	0.016	0.625	1.58	1.09	0.16	3.10	1.35	1.08	0.13	2.70
MXC01605	0.120	0.016	0.750	1.58	1.35	0.16	2.40	1.35	1.33	0.13	2.10
MXC01606	0.120	0.016	0.875	1.58	1.60	0.16	2.00	1.35	1.59	0.13	1.70
MXC01607	0.120	0.016	1.000	1.58	1.86	0.16	1.70	1.35	1.84	0.13	1.40
MXC01608	0.120	0.016	1.125	1.58	2.12	0.16	1.40	1.35	2.10	0.13	1.20
MXC01609	0.120	0.016	1.250	1.58	2.38	0.16	1.30	1.35	2.36	0.13	1.10
MXC01610	0.120	0.016	1.375	1.58	2.64	0.16	1.10	1.35	2.61	0.13	1.00
MXC01611	0.120	0.016	1.500	1.58	2.90	0.16	1.00	1.35	2.87	0.13	0.90
MXC01612	0.120	0.016	1.750	1.58	3.41	0.16	0.90	1.35	3.38	0.13	0.70
MXC01613	0.120	0.016	2.000	1.58	3.93	0.16	0.70	1.35	3.89	0.13	0.60

MXC01801	0.120	0.018	0.375	2.20	0.52	0.25	13.40	1.88	0.52	0.21	11.70
MXC01802	0.120	0.018	0.438	2.20	0.63	0.25	10.10	1.88	0.63	0.21	8.70
MXC01803	0.120	0.018	0.500	2.20	0.74	0.25	8.10	1.88	0.74	0.21	7.00
MXC01804	0.120	0.018	0.625	2.20	0.96	0.25	5.80	1.88	0.96	0.21	5.00
MXC01805	0.120	0.018	0.750	2.20	1.19	0.25	4.50	1.88	1.18	0.21	3.90
MXC01806	0.120	0.018	0.875	2.20	1.41	0.25	3.70	1.88	1.40	0.21	3.20
MXC01807	0.120	0.018	1.000	2.20	1.63	0.25	3.10	1.88	1.62	0.21	2.70
MXC01808	0.120	0.018	1.125	2.20	1.85	0.25	2.70	1.88	1.84	0.21	2.30
MXC01809	0.120	0.018	1.250	2.20	2.07	0.25	2.40	1.88	2.06	0.21	2.10
MXC01810	0.120	0.018	1.375	2.20	2.29	0.25	2.10	1.88	2.28	0.21	1.90
MXC01811	0.120	0.018	1.500	2.20	2.51	0.25	1.90	1.88	2.50	0.21	1.70
MXC01812	0.120	0.018	1.750	2.20	2.96	0.25	1.60	1.88	2.94	0.21	1.40
MXC01813	0.120	0.018	2.000	2.20	3.40	0.25	1.40	1.88	3.37	0.21	1.20
MXC01814	0.120	0.018	2.250	2.20	3.84	0.25	1.20	1.88	3.81	0.21	1.10

MXC02001	0.120	0.020	0.500	2.92	0.68	0.37	14.30	2.50	0.68	0.31	12.40
MXC02002	0.120	0.020	0.625	2.92	0.87	0.37	10.30	2.50	0.87	0.31	8.90
MXC02003	0.120	0.020	0.750	2.92	1.07	0.37	8.00	2.50	1.06	0.31	7.00



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXC02004	0.120	0.020	0.875	2.92	1.26	0.37	6.60	2.50	1.26	0.31	5.70
MXC02005	0.120	0.020	1.000	2.92	1.46	0.37	5.60	2.50	1.45	0.31	4.80
MXC02006	0.120	0.020	1.125	2.92	1.65	0.37	4.80	2.50	1.65	0.31	4.20
MXC02007	0.120	0.020	1.250	2.92	1.85	0.37	4.30	2.50	1.84	0.31	3.70
MXC02008	0.120	0.020	1.375	2.92	2.04	0.37	3.80	2.50	2.03	0.31	3.30
MXC02009	0.120	0.020	1.500	2.92	2.24	0.37	3.50	2.50	2.23	0.31	3.00
MXC02010	0.120	0.020	1.750	2.92	2.63	0.37	2.90	2.50	2.62	0.31	2.50
MXC02011	0.120	0.020	2.000	2.92	3.02	0.37	2.50	2.50	3.00	0.31	2.20
MXC02012	0.120	0.020	2.250	2.92	3.41	0.37	2.20	2.50	3.39	0.31	1.90

MXC02201	0.120	0.022	0.625	3.79	0.81	0.53	17.40	3.25	0.81	0.45	15.10
MXC02202	0.120	0.022	0.750	3.79	0.99	0.53	13.60	3.25	0.99	0.45	11.80
MXC02203	0.120	0.022	0.875	3.79	1.17	0.53	11.20	3.25	1.16	0.45	9.70
MXC02204	0.120	0.022	1.000	3.79	1.34	0.53	9.50	3.25	1.34	0.45	8.30
MXC02205	0.120	0.022	1.125	3.79	1.52	0.53	8.20	3.25	1.52	0.45	7.20
MXC02206	0.120	0.022	1.250	3.79	1.70	0.53	7.30	3.25	1.69	0.45	6.30
MXC02207	0.120	0.022	1.375	3.79	1.88	0.53	6.50	3.25	1.87	0.45	5.70
MXC02208	0.120	0.022	1.500	3.79	2.05	0.53	5.90	3.25	2.04	0.45	5.10
MXC02209	0.120	0.022	1.750	3.79	2.41	0.53	5.00	3.25	2.40	0.45	4.30
MXC02210	0.120	0.022	2.000	3.79	2.76	0.53	4.30	3.25	2.75	0.45	3.70
MXC02211	0.120	0.022	2.250	3.79	3.11	0.53	3.80	3.25	3.10	0.45	3.30
MXC02212	0.120	0.022	2.500	3.79	3.47	0.53	3.40	3.25	3.46	0.45	2.90

MXE01801	0.180	0.018	0.625	1.50	1.32	0.10	1.90	1.20	1.31	0.10	1.70
MXE01802	0.180	0.018	0.750	1.50	1.72	0.10	1.40	1.20	1.70	0.10	1.20
MXE01803	0.180	0.018	0.875	1.50	2.12	0.10	1.10	1.20	2.10	0.10	0.90
MXE01804	0.180	0.018	1.000	1.50	2.52	0.10	0.90	1.20	2.49	0.10	0.80
MXE01805	0.180	0.018	1.125	1.50	2.92	0.10	0.80	1.20	2.88	0.10	0.70
MXE01806	0.180	0.018	1.250	1.50	3.32	0.10	0.70	1.20	3.28	0.10	0.60
MXE01807	0.180	0.018	1.375	1.50	3.71	0.10	0.60	1.20	3.67	0.10	0.50
MXE01808	0.180	0.018	1.500	1.50	4.11	0.10	0.50	1.20	4.07	0.10	0.40
MXE01809	0.180	0.018	1.750	1.50	4.91	0.10	0.40	1.20	4.85	0.10	0.40
MXE01810	0.180	0.018	2.000	1.50	5.71	0.10	0.40	1.20	5.64	0.10	0.30
MXE01811	0.180	0.018	2.250	1.50	6.50	0.10	0.30	1.20	6.43	0.10	0.30
MXE01812	0.180	0.018	2.500	1.50	7.30	0.10	0.30	1.20	7.21	0.10	0.20

MXE02001	0.180	0.020	0.625	2.00	1.16	0.20	3.50	1.70	1.16	0.10	3.00
MXE02002	0.180	0.020	0.750	2.00	1.50	0.20	2.50	1.70	1.49	0.10	2.20
MXE02003	0.180	0.020	0.875	2.00	1.83	0.20	2.00	1.70	1.81	0.10	1.70
MXE02004	0.180	0.020	1.000	2.00	2.16	0.20	1.60	1.70	2.14	0.10	1.40
MXE02005	0.180	0.020	1.125	2.00	2.49	0.20	1.40	1.70	2.47	0.10	1.20
MXE02006	0.180	0.020	1.250	2.00	2.82	0.20	1.20	1.70	2.80	0.10	1.00
MXE02007	0.180	0.020	1.375	2.00	3.16	0.20	1.00	1.70	3.13	0.10	0.90
MXE02008	0.180	0.020	1.500	2.00	3.49	0.20	0.90	1.70	3.46	0.10	0.80
MXE02009	0.180	0.020	1.750	2.00	4.15	0.20	0.80	1.70	4.12	0.10	0.70
MXE02010	0.180	0.020	2.000	2.00	4.82	0.20	0.70	1.70	4.78	0.10	0.60
MXE02011	0.180	0.020	2.250	2.00	5.48	0.20	0.60	1.70	5.44	0.10	0.50
MXE02012	0.180	0.020	2.500	2.00	6.15	0.20	0.50	1.70	6.09	0.10	0.40

MXE02201	0.180	0.022	0.500	2.60	0.76	0.20	9.10	2.30	0.76	0.20	7.90
MXE02202	0.180	0.022	0.625	2.60	1.05	0.20	5.60	2.30	1.04	0.20	4.90
MXE02203	0.180	0.022	0.750	2.60	1.34	0.20	4.10	2.30	1.33	0.20	3.60



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXE02204	0.180	0.022	0.875	2.60	1.62	0.20	3.20	2.30	1.61	0.20	2.80
MXE02205	0.180	0.022	1.000	2.60	1.91	0.20	2.60	2.30	1.89	0.20	2.30
MXE02206	0.180	0.022	1.125	2.60	2.19	0.20	2.20	2.30	2.18	0.20	2.00
MXE02207	0.180	0.022	1.250	2.60	2.48	0.20	2.00	2.30	2.46	0.20	1.70
MXE02208	0.180	0.022	1.375	2.60	2.76	0.20	1.70	2.30	2.75	0.20	1.50
MXE02209	0.180	0.022	1.500	2.60	3.05	0.20	1.50	2.30	3.03	0.20	1.30
MXE02210	0.180	0.022	1.750	2.60	3.62	0.20	1.30	2.30	3.60	0.20	1.10
MXE02211	0.180	0.022	2.000	2.60	4.19	0.20	1.10	2.30	4.16	0.20	1.00
MXE02212	0.180	0.022	2.250	2.60	4.76	0.20	1.00	2.30	4.73	0.20	0.80
MXE02213	0.180	0.022	2.500	2.60	5.33	0.20	0.80	2.30	5.30	0.20	0.70
MXE02401	0.180	0.024	0.625	3.40	0.97	0.30	8.90	2.90	0.96	0.30	7.70
MXE02402	0.180	0.024	0.750	3.40	1.22	0.30	6.50	2.90	1.21	0.30	5.60
MXE02403	0.180	0.024	0.875	3.40	1.47	0.30	5.10	2.90	1.46	0.30	4.40
MXE02404	0.180	0.024	1.000	3.40	1.72	0.30	4.20	2.90	1.71	0.30	3.60
MXE02405	0.180	0.024	1.125	3.40	1.97	0.30	3.60	2.90	1.96	0.30	3.10
MXE02406	0.180	0.024	1.250	3.40	2.22	0.30	3.10	2.90	2.21	0.30	2.70
MXE02407	0.180	0.024	1.375	3.40	2.48	0.30	2.70	2.90	2.46	0.30	2.40
MXE02408	0.180	0.024	1.500	3.40	2.73	0.30	2.50	2.90	2.71	0.30	2.10
MXE02409	0.180	0.024	1.750	3.40	3.23	0.30	2.00	2.90	3.21	0.30	1.80
MXE02410	0.180	0.024	2.000	3.40	3.73	0.30	1.70	2.90	3.71	0.30	1.50
MXE02411	0.180	0.024	2.250	3.40	4.24	0.30	1.50	2.90	4.21	0.30	1.30
MXE02412	0.180	0.024	2.500	3.40	4.74	0.30	1.30	2.90	4.71	0.30	1.20
MXE02601	0.180	0.026	0.500	4.20	0.67	0.50	21.30	3.60	0.67	0.40	18.60
MXE02602	0.180	0.026	0.625	4.20	0.90	0.50	13.60	3.60	0.90	0.40	11.80
MXE02603	0.180	0.026	0.750	4.20	1.12	0.50	9.90	3.60	1.12	0.40	8.60
MXE02604	0.180	0.026	0.875	4.20	1.35	0.50	7.80	3.60	1.34	0.40	6.80
MXE02605	0.180	0.026	1.000	4.20	1.57	0.50	6.50	3.60	1.57	0.40	5.60
MXE02606	0.180	0.026	1.125	4.20	1.80	0.50	5.50	3.60	1.79	0.40	4.80
MXE02607	0.180	0.026	1.250	4.20	2.02	0.50	4.80	3.60	2.01	0.40	4.20
MXE02608	0.180	0.026	1.375	4.20	2.25	0.50	4.30	3.60	2.24	0.40	3.70
MXE02609	0.180	0.026	1.500	4.20	2.47	0.50	3.80	3.60	2.46	0.40	3.30
MXE02610	0.180	0.026	1.750	4.20	2.93	0.50	3.20	3.60	2.91	0.40	2.80
MXE02611	0.180	0.026	2.000	4.20	3.38	0.50	2.70	3.60	3.36	0.40	2.40
MXE02612	0.180	0.026	2.250	4.20	3.83	0.50	2.40	3.60	3.80	0.40	2.10
MXE02613	0.180	0.026	2.500	4.20	4.28	0.50	2.10	3.60	4.25	0.40	1.80
MXE02901	0.180	0.029	0.625	5.60	0.83	0.70	24.30	4.80	0.82	0.60	21.10
MXE02902	0.180	0.029	0.750	5.60	1.02	0.70	17.90	4.80	1.02	0.60	15.60
MXE02903	0.180	0.029	0.875	5.60	1.22	0.70	14.20	4.80	1.21	0.60	12.30
MXE02904	0.180	0.029	1.000	5.60	1.42	0.70	11.70	4.80	1.41	0.60	10.20
MXE02905	0.180	0.029	1.125	5.60	1.61	0.70	10.00	4.80	1.60	0.60	8.70
MXE02906	0.180	0.029	1.250	5.60	1.81	0.70	8.70	4.80	1.80	0.60	7.60
MXE02907	0.180	0.029	1.375	5.60	2.01	0.70	7.70	4.80	2.00	0.60	6.70
MXE02908	0.180	0.029	1.500	5.60	2.20	0.70	7.00	4.80	2.19	0.60	6.10
MXE02909	0.180	0.029	1.750	5.60	2.60	0.70	5.80	4.80	2.58	0.60	5.00
MXE02910	0.180	0.029	2.000	5.60	2.99	0.70	4.90	4.80	2.97	0.60	4.30
MXE02911	0.180	0.029	2.250	5.60	3.38	0.70	4.30	4.80	3.36	0.60	3.80
MXE02912	0.180	0.029	2.500	5.60	3.78	0.70	3.80	4.80	3.75	0.60	3.30
MXE03101	0.180	0.031	0.500	6.90	0.61	0.90	53.40	5.90	0.61	0.80	46.40



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXE03102	0.180	0.031	0.625	6.90	0.80	0.90	34.80	5.90	0.79	0.80	30.20
MXE03103	0.180	0.031	0.750	6.90	0.98	0.90	25.80	5.90	0.98	0.80	22.40
MXE03104	0.180	0.031	0.875	6.90	1.17	0.90	20.50	5.90	1.16	0.80	17.80
MXE03105	0.180	0.031	1.000	6.90	1.35	0.90	17.00	5.90	1.34	0.80	14.80
MXE03106	0.180	0.031	1.125	6.90	1.54	0.90	14.50	5.90	1.53	0.80	12.60
MXE03107	0.180	0.031	1.250	6.90	1.72	0.90	12.70	5.90	1.71	0.80	11.00
MXE03108	0.180	0.031	1.375	6.90	1.91	0.90	11.20	5.90	1.89	0.80	9.80
MXE03109	0.180	0.031	1.500	6.90	2.09	0.90	10.10	5.90	2.08	0.80	8.80
MXE03110	0.180	0.031	1.750	6.90	2.46	0.90	8.40	5.90	2.44	0.80	7.30
MXE03111	0.180	0.031	2.000	6.90	2.83	0.90	7.20	5.90	2.81	0.80	6.20
MXE03112	0.180	0.031	2.250	6.90	3.20	0.90	6.30	5.90	3.18	0.80	5.50
MXE03113	0.180	0.031	2.500	6.90	3.57	0.90	5.60	5.90	3.54	0.80	4.80

MXE03501	0.180	0.035	0.625	9.50	0.74	1.50	66.90	8.10	0.74	1.30	58.20
MXE03502	0.180	0.035	0.750	9.50	0.91	1.50	50.00	8.10	0.91	1.30	43.50
MXE03503	0.180	0.035	0.875	9.50	1.08	1.50	39.90	8.10	1.07	1.30	34.70
MXE03504	0.180	0.035	1.000	9.50	1.24	1.50	33.20	8.10	1.23	1.30	28.90
MXE03505	0.180	0.035	1.125	9.50	1.41	1.50	28.50	8.10	1.40	1.30	24.80
MXE03506	0.180	0.035	1.250	9.50	1.57	1.50	24.90	8.10	1.56	1.30	21.60
MXE03507	0.180	0.035	1.375	9.50	1.74	1.50	22.10	8.10	1.73	1.30	19.20
MXE03508	0.180	0.035	1.500	9.50	1.90	1.50	19.90	8.10	1.89	1.30	17.30
MXE03509	0.180	0.035	1.750	9.50	2.23	1.50	16.60	8.10	2.22	1.30	14.40
MXE03510	0.180	0.035	2.000	9.50	2.56	1.50	14.20	8.10	2.55	1.30	12.30
MXE03511	0.180	0.035	2.250	9.50	2.90	1.50	12.40	8.10	2.88	1.30	10.80
MXE03512	0.180	0.035	2.500	9.50	3.23	1.50	11.00	8.10	3.21	1.30	9.60

MXG02201	0.240	0.022	0.625	2.00	1.18	0.10	3.40	1.70	1.17	0.10	2.90
MXG02202	0.240	0.022	0.750	2.00	1.64	0.10	2.10	1.70	1.62	0.10	1.90
MXG02203	0.240	0.022	0.875	2.00	2.09	0.10	1.60	1.70	2.07	0.10	1.30
MXG02204	0.240	0.022	1.000	2.00	2.54	0.10	1.20	1.70	2.52	0.10	1.10
MXG02205	0.240	0.022	1.125	2.00	3.00	0.10	1.00	1.70	2.97	0.10	0.90
MXG02206	0.240	0.022	1.250	2.00	3.45	0.10	0.90	1.70	3.42	0.10	0.70
MXG02207	0.240	0.022	1.375	2.00	3.91	0.10	0.70	1.70	3.87	0.10	0.60
MXG02208	0.240	0.022	1.500	2.00	4.36	0.10	0.70	1.70	4.32	0.10	0.60
MXG02209	0.240	0.022	1.750	2.00	5.27	0.10	0.50	1.70	5.22	0.10	0.50
MXG02210	0.240	0.022	2.000	2.00	6.18	0.10	0.50	1.70	6.12	0.10	0.40
MXG02211	0.240	0.022	2.250	2.00	7.09	0.10	0.40	1.70	7.02	0.10	0.30
MXG02212	0.240	0.022	2.500	2.00	8.00	0.10	0.30	1.70	7.92	0.10	0.30
MXG02213	0.240	0.022	2.750	2.00	8.91	0.10	0.30	1.70	8.82	0.10	0.30

MXG02601	0.240	0.026	0.625	3.20	1.00	0.30	7.80	2.80	1.00	0.20	6.80
MXG02602	0.240	0.026	0.750	3.20	1.34	0.30	5.00	2.80	1.33	0.20	4.40
MXG02603	0.240	0.026	0.875	3.20	1.68	0.30	3.70	2.80	1.67	0.20	3.20
MXG02604	0.240	0.026	1.000	3.20	2.01	0.30	2.90	2.80	2.00	0.20	2.50
MXG02605	0.240	0.026	1.125	3.20	2.35	0.30	2.40	2.80	2.33	0.20	2.10
MXG02606	0.240	0.026	1.250	3.20	2.69	0.30	2.10	2.80	2.67	0.20	1.80
MXG02607	0.240	0.026	1.375	3.20	3.02	0.30	1.80	2.80	3.00	0.20	1.60
MXG02608	0.240	0.026	1.500	3.20	3.36	0.30	1.60	2.80	3.34	0.20	1.40
MXG02609	0.240	0.026	1.750	3.20	4.04	0.30	1.30	2.80	4.00	0.20	1.10
MXG02610	0.240	0.026	2.000	3.20	4.71	0.30	1.10	2.80	4.67	0.20	0.90
MXG02611	0.240	0.026	2.250	3.20	5.38	0.30	0.90	2.80	5.34	0.20	0.80
MXG02612	0.240	0.026	2.500	3.20	6.06	0.30	0.80	2.80	6.01	0.20	0.70



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXG02613	0.240	0.026	2.750	3.20	6.73	0.30	0.70	2.80	6.68	0.20	0.60
MXG02614	0.240	0.026	3.000	3.20	7.41	0.30	0.70	2.80	7.35	0.20	0.60
MXG02615	0.240	0.026	4.000	3.20	10.10	0.30	0.50	2.80	10.02	0.20	0.40
MXG02616	0.240	0.026	5.000	3.20	12.80	0.30	0.40	2.80	12.69	0.20	0.30

MXG02901	0.240	0.029	0.625	4.40	0.92	0.40	13.50	3.80	0.91	0.40	11.80
MXG02902	0.240	0.029	0.750	4.40	1.20	0.40	8.80	3.80	1.19	0.40	7.60
MXG02903	0.240	0.029	0.875	4.40	1.49	0.40	6.50	3.80	1.47	0.40	5.70
MXG02904	0.240	0.029	1.000	4.40	1.77	0.40	5.20	3.80	1.76	0.40	4.50
MXG02905	0.240	0.029	1.125	4.40	2.05	0.40	4.30	3.80	2.04	0.40	3.70
MXG02906	0.240	0.029	1.250	4.40	2.34	0.40	3.70	3.80	2.32	0.40	3.20
MXG02907	0.240	0.029	1.375	4.40	2.62	0.40	3.20	3.80	2.60	0.40	2.80
MXG02908	0.240	0.029	1.500	4.40	2.90	0.40	2.80	3.80	2.88	0.40	2.50
MXG02909	0.240	0.029	1.750	4.40	3.47	0.40	2.30	3.80	3.44	0.40	2.00
MXG02910	0.240	0.029	2.000	4.40	4.04	0.40	2.00	3.80	4.00	0.40	1.70
MXG02911	0.240	0.029	2.250	4.40	4.61	0.40	1.70	3.80	4.56	0.40	1.50
MXG02912	0.240	0.029	2.500	4.40	5.17	0.40	1.50	3.80	5.12	0.40	1.30
MXG02913	0.240	0.029	2.750	4.40	5.74	0.40	1.30	3.80	5.68	0.40	1.20
MXG02914	0.240	0.029	3.000	4.40	6.31	0.40	1.20	3.80	6.24	0.40	1.00
MXG02915	0.240	0.029	4.000	4.40	8.58	0.40	0.90	3.80	8.49	0.40	0.80
MXG02916	0.240	0.029	5.000	4.40	10.84	0.40	0.70	3.80	10.73	0.40	0.60

MXG03101	0.240	0.031	0.625	5.30	0.88	0.60	18.90	4.50	0.87	0.50	16.50
MXG03102	0.240	0.031	0.750	5.30	1.14	0.60	12.40	4.50	1.13	0.50	10.80
MXG03103	0.240	0.031	0.875	5.30	1.39	0.60	9.20	4.50	1.38	0.50	8.00
MXG03104	0.240	0.031	1.000	5.30	1.65	0.60	7.40	4.50	1.63	0.50	6.40
MXG03105	0.240	0.031	1.125	5.30	1.91	0.60	6.10	4.50	1.89	0.50	5.30
MXG03106	0.240	0.031	1.250	5.30	2.17	0.60	5.20	4.50	2.14	0.50	4.50
MXG03107	0.240	0.031	1.375	5.30	2.42	0.60	4.60	4.50	2.40	0.50	4.00
MXG03108	0.240	0.031	1.500	5.30	2.68	0.60	4.10	4.50	2.65	0.50	3.50
MXG03109	0.240	0.031	1.750	5.30	3.20	0.60	3.30	4.50	3.16	0.50	2.90
MXG03110	0.240	0.031	2.000	5.30	3.71	0.60	2.80	4.50	3.67	0.50	2.40
MXG03111	0.240	0.031	2.250	5.30	4.23	0.60	2.40	4.50	4.18	0.50	2.10
MXG03112	0.240	0.031	2.500	5.30	4.74	0.60	2.10	4.50	4.69	0.50	1.90
MXG03113	0.240	0.031	2.750	5.30	5.26	0.60	1.90	4.50	5.20	0.50	1.70
MXG03114	0.240	0.031	3.000	5.30	5.77	0.60	1.70	4.50	5.70	0.50	1.50
MXG03115	0.240	0.031	4.000	5.30	7.83	0.60	1.20	4.50	7.74	0.50	1.10
MXG03116	0.240	0.031	5.000	5.30	9.89	0.60	1.00	4.50	9.78	0.50	0.80

MXG03401	0.240	0.034	0.625	6.80	0.82	0.80	30.20	5.80	0.82	0.70	26.30
MXG03402	0.240	0.034	0.750	6.80	1.05	0.80	20.10	5.80	1.04	0.70	17.50
MXG03403	0.240	0.034	0.875	6.80	1.27	0.80	15.00	5.80	1.26	0.70	13.10
MXG03404	0.240	0.034	1.000	6.80	1.50	0.80	12.00	5.80	1.49	0.70	10.40
MXG03405	0.240	0.034	1.125	6.80	1.73	0.80	10.00	5.80	1.71	0.70	8.70
MXG03406	0.240	0.034	1.250	6.80	1.95	0.80	8.60	5.80	1.93	0.70	7.50
MXG03407	0.240	0.034	1.375	6.80	2.18	0.80	7.50	5.80	2.16	0.70	6.50
MXG03408	0.240	0.034	1.500	6.80	2.40	0.80	6.70	5.80	2.38	0.70	5.80
MXG03409	0.240	0.034	1.750	6.80	2.85	0.80	5.40	5.80	2.83	0.70	4.70
MXG03410	0.240	0.034	2.000	6.80	3.30	0.80	4.60	5.80	3.27	0.70	4.00
MXG03411	0.240	0.034	2.250	6.80	3.75	0.80	4.00	5.80	3.72	0.70	3.50
MXG03412	0.240	0.034	2.500	6.80	4.20	0.80	3.50	5.80	4.16	0.70	3.10
MXG03413	0.240	0.034	2.750	6.80	4.66	0.80	3.10	5.80	4.61	0.70	2.70



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXG03414	0.240	0.034	3.000	6.80	5.11	0.80	2.80	5.80	5.06	0.70	2.50
MXG03415	0.240	0.034	4.000	6.80	6.94	0.80	2.10	5.80	6.87	0.70	1.80
MXG03416	0.240	0.034	5.000	6.80	8.75	0.80	1.60	5.80	8.66	0.70	1.40

MXG03701	0.240	0.037	0.625	8.60	0.79	1.10	46.50	7.30	0.78	0.90	40.50
MXG03702	0.240	0.037	0.750	8.60	0.99	1.10	31.30	7.30	0.98	0.90	27.20
MXG03703	0.240	0.037	0.875	8.60	1.19	1.10	23.50	7.30	1.19	0.90	20.50
MXG03704	0.240	0.037	1.000	8.60	1.40	1.10	18.90	7.30	1.39	0.90	16.40
MXG03705	0.240	0.037	1.125	8.60	1.60	1.10	15.80	7.30	1.59	0.90	13.70
MXG03706	0.240	0.037	1.250	8.60	1.80	1.10	13.50	7.30	1.79	0.90	11.80
MXG03707	0.240	0.037	1.375	8.60	2.01	1.10	11.80	7.30	1.99	0.90	10.30
MXG03708	0.240	0.037	1.500	8.60	2.21	1.10	10.50	7.30	2.19	0.90	9.20
MXG03709	0.240	0.037	1.750	8.60	2.62	1.10	8.60	7.30	2.60	0.90	7.50
MXG03710	0.240	0.037	2.000	8.60	3.03	1.10	7.30	7.30	3.00	0.90	6.40
MXG03711	0.240	0.037	2.250	8.60	3.43	1.10	6.30	7.30	3.40	0.90	5.50
MXG03712	0.240	0.037	2.500	8.60	3.84	1.10	5.60	7.30	3.81	0.90	4.90
MXG03713	0.240	0.037	2.750	8.60	4.25	1.10	5.00	7.30	4.21	0.90	4.40
MXG03714	0.240	0.037	3.000	8.60	4.66	1.10	4.50	7.30	4.61	0.90	3.90
MXG03715	0.240	0.037	3.500	8.60	5.47	1.10	3.80	7.30	5.42	0.90	3.30
MXG03716	0.240	0.037	4.000	8.60	6.29	1.10	3.30	7.30	6.23	0.90	2.90
MXG03717	0.240	0.037	5.000	8.60	7.92	1.10	2.60	7.30	7.85	0.90	2.20

MXG04101	0.240	0.041	0.625	11.40	0.75	1.60	78.90	9.70	0.75	1.30	68.60
MXG04102	0.240	0.041	0.750	11.40	0.93	1.60	53.80	9.70	0.93	1.30	46.80
MXG04103	0.240	0.041	0.875	11.40	1.12	1.60	40.80	9.70	1.11	1.30	35.50
MXG04104	0.240	0.041	1.000	11.40	1.30	1.60	32.90	9.70	1.29	1.30	28.60
MXG04105	0.240	0.041	1.125	11.40	1.48	1.60	27.50	9.70	1.47	1.30	23.90
MXG04106	0.240	0.041	1.250	11.40	1.66	1.60	23.70	9.70	1.66	1.30	20.60
MXG04107	0.240	0.041	1.375	11.40	1.85	1.60	20.80	9.70	1.84	1.30	18.10
MXG04108	0.240	0.041	1.500	11.40	2.03	1.60	18.50	9.70	2.02	1.30	16.10
MXG04109	0.240	0.041	1.750	11.40	2.40	1.60	15.20	9.70	2.38	1.30	13.20
MXG04110	0.240	0.041	2.000	11.40	2.76	1.60	12.90	9.70	2.75	1.30	11.20
MXG04111	0.240	0.041	2.250	11.40	3.13	1.60	11.20	9.70	3.11	1.30	9.70
MXG04112	0.240	0.041	2.500	11.40	3.49	1.60	9.90	9.70	3.48	1.30	8.60
MXG04113	0.240	0.041	2.750	11.40	3.86	1.60	8.80	9.70	3.84	1.30	7.70
MXG04114	0.240	0.041	3.000	11.40	4.23	1.60	8.00	9.70	4.20	1.30	7.00
MXG04115	0.240	0.041	3.500	11.40	4.96	1.60	6.70	9.70	4.93	1.30	5.80
MXG04116	0.240	0.041	4.000	11.40	5.69	1.60	5.80	9.70	5.66	1.30	5.00
MXG04117	0.240	0.041	5.000	11.40	7.15	1.60	4.60	9.70	7.12	1.30	4.00

MXH03101	0.300	0.031	1.000	4.30	1.92	0.30	4.30	3.70	1.90	0.30	3.70
MXH03102	0.300	0.031	1.125	4.30	2.28	0.30	3.40	3.70	2.26	0.30	3.00
MXH03103	0.300	0.031	1.250	4.30	2.64	0.30	2.80	3.70	2.61	0.30	2.50
MXH03104	0.300	0.031	1.375	4.30	3.00	0.30	2.40	3.70	2.96	0.30	2.10
MXH03105	0.300	0.031	1.500	4.30	3.36	0.30	2.10	3.70	3.32	0.30	1.90
MXH03106	0.300	0.031	1.750	4.30	4.08	0.30	1.70	3.70	4.02	0.30	1.50
MXH03107	0.300	0.031	2.000	4.30	4.80	0.30	1.40	3.70	4.73	0.30	1.20
MXH03108	0.300	0.031	2.250	4.30	5.52	0.30	1.20	3.70	5.44	0.30	1.10
MXH03109	0.300	0.031	2.500	4.30	6.24	0.30	1.10	3.70	6.15	0.30	0.90
MXH03110	0.300	0.031	2.750	4.30	6.96	0.30	0.90	3.70	6.85	0.30	0.80
MXH03111	0.300	0.031	3.000	4.30	7.68	0.30	0.80	3.70	7.56	0.30	0.70



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXH03701	0.300	0.037	1.000	7.00	1.59	0.70	10.70	6.00	1.57	0.60	9.30
MXH03702	0.300	0.037	1.125	7.00	1.86	0.70	8.60	6.00	1.84	0.60	7.50
MXH03703	0.300	0.037	1.250	7.00	2.13	0.70	7.20	6.00	2.10	0.60	6.30
MXH03704	0.300	0.037	1.375	7.00	2.39	0.70	6.20	6.00	2.37	0.60	5.40
MXH03705	0.300	0.037	1.500	7.00	2.66	0.70	5.40	6.00	2.63	0.60	4.70
MXH03706	0.300	0.037	1.750	7.00	3.20	0.70	4.30	6.00	3.16	0.60	3.80
MXH03707	0.300	0.037	2.000	7.00	3.74	0.70	3.60	6.00	3.69	0.60	3.20
MXH03708	0.300	0.037	2.250	7.00	4.28	0.70	3.10	6.00	4.22	0.60	2.70
MXH03709	0.300	0.037	2.500	7.00	4.81	0.70	2.70	6.00	4.76	0.60	2.40
MXH03710	0.300	0.037	2.750	7.00	5.35	0.70	2.40	6.00	5.29	0.60	2.10
MXH03711	0.300	0.037	3.000	7.00	5.89	0.70	2.20	6.00	5.82	0.60	1.90

MXH04901	0.300	0.049	1.000	15.20	1.28	2.20	46.90	13.00	1.27	1.90	40.80
MXH04902	0.300	0.049	1.125	15.20	1.46	2.20	38.20	13.00	1.46	1.90	33.20
MXH04903	0.300	0.049	1.250	15.20	1.65	2.20	32.20	13.00	1.65	1.90	28.00
MXH04904	0.300	0.049	1.375	15.20	1.84	2.20	27.90	13.00	1.83	1.90	24.20
MXH04905	0.300	0.049	1.500	15.20	2.03	2.20	24.50	13.00	2.02	1.90	21.30
MXH04906	0.300	0.049	1.750	15.20	2.41	2.20	19.80	13.00	2.39	1.90	17.20
MXH04907	0.300	0.049	2.000	15.20	2.78	2.20	16.60	13.00	2.77	1.90	14.40
MXH04908	0.300	0.049	2.250	15.20	3.16	2.20	14.30	13.00	3.14	1.90	12.40
MXH04909	0.300	0.049	2.500	15.20	3.54	2.20	12.50	13.00	3.52	1.90	10.90
MXH04910	0.300	0.049	2.750	15.20	3.91	2.20	11.20	13.00	3.89	1.90	9.70
MXH04911	0.300	0.049	3.000	15.20	4.29	2.20	10.10	13.00	4.26	1.90	8.80

MXH05501	0.300	0.055	1.000	20.70	1.20	3.40	87.10	17.90	1.20	2.90	75.70
MXH05502	0.300	0.055	1.125	20.70	1.37	3.40	71.30	17.90	1.37	2.90	62.00
MXH05503	0.300	0.055	1.250	20.70	1.54	3.40	60.40	17.90	1.54	2.90	52.50
MXH05504	0.300	0.055	1.375	20.70	1.71	3.40	52.30	17.90	1.70	2.90	45.50
MXH05505	0.300	0.055	1.500	20.70	1.87	3.40	46.20	17.90	1.87	2.90	40.20
MXH05506	0.300	0.055	1.750	20.70	2.21	3.40	37.40	17.90	2.21	2.90	32.50
MXH05507	0.300	0.055	2.000	20.70	2.55	3.40	31.40	17.90	2.55	2.90	27.30
MXH05508	0.300	0.055	2.250	20.70	2.89	3.40	27.10	17.90	2.89	2.90	23.60
MXH05509	0.300	0.055	2.500	20.70	3.23	3.40	23.80	17.90	3.22	2.90	20.70
MXH05511	0.300	0.055	2.750	20.70	3.56	3.40	21.30	17.90	3.56	2.90	18.50
MXH05511	0.300	0.055	3.000	20.70	3.90	3.40	19.20	17.90	3.90	2.90	16.70

MXI02601	0.360	0.026	1.000	2.20	2.63	0.10	1.30	1.90	2.61	0.10	1.10
MXI02602	0.360	0.026	1.125	2.20	3.32	0.10	0.90	1.90	3.29	0.10	0.80
MXI02603	0.360	0.026	1.250	2.20	4.02	0.10	0.80	1.90	3.98	0.10	0.70
MXI02604	0.360	0.026	1.375	2.20	4.71	0.10	0.60	1.90	4.66	0.10	0.50
MXI02605	0.360	0.026	1.500	2.20	5.40	0.10	0.50	1.90	5.35	0.10	0.50
MXI02606	0.360	0.026	1.750	2.20	6.79	0.10	0.40	1.90	6.72	0.10	0.40
MXI02607	0.360	0.026	2.000	2.20	8.18	0.10	0.30	1.90	8.09	0.10	0.30

MXI03101	0.360	0.031	1.000	3.70	2.11	0.20	3.10	3.10	2.08	0.20	2.70
MXI03102	0.360	0.031	1.125	3.70	2.60	0.20	2.30	3.10	2.57	0.20	2.00
MXI03103	0.360	0.031	1.250	3.70	3.10	0.20	1.90	3.10	3.06	0.20	1.60
MXI03104	0.360	0.031	1.375	3.70	3.60	0.20	1.50	3.10	3.54	0.20	1.30
MXI03105	0.360	0.031	1.500	3.70	4.09	0.20	1.30	3.10	4.03	0.20	1.20
MXI03106	0.360	0.031	1.750	3.70	5.09	0.20	1.00	3.10	5.00	0.20	0.90
MXI03107	0.360	0.031	2.000	3.70	6.08	0.20	0.80	3.10	5.98	0.20	0.70
MXI03108	0.360	0.031	2.250	3.70	7.07	0.20	0.70	3.10	6.95	0.20	0.60



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXI03109	0.360	0.031	2.500	3.70	8.06	0.20	0.60	3.10	7.93	0.20	0.50
MXI03110	0.360	0.031	2.750	3.70	9.06	0.20	0.50	3.10	8.90	0.20	0.50
MXI03111	0.360	0.031	3.000	3.70	10.05	0.20	0.50	3.10	9.88	0.20	0.40

MXI03401	0.360	0.034	1.000	4.70	1.87	0.30	4.90	4.00	1.85	0.30	4.30
MXI03402	0.360	0.034	1.125	4.70	2.29	0.30	3.70	4.00	2.26	0.30	3.20
MXI03403	0.360	0.034	1.250	4.70	2.70	0.30	3.00	4.00	2.66	0.30	2.60
MXI03404	0.360	0.034	1.375	4.70	3.11	0.30	2.50	4.00	3.07	0.30	2.20
MXI03405	0.360	0.034	1.500	4.70	3.52	0.30	2.10	4.00	3.47	0.30	1.90
MXI03406	0.360	0.034	1.750	4.70	4.34	0.30	1.70	4.00	4.28	0.30	1.40
MXI03407	0.360	0.034	2.000	4.70	5.16	0.30	1.40	4.00	5.09	0.30	1.20
MXI03408	0.360	0.034	2.250	4.70	5.99	0.30	1.20	4.00	5.90	0.30	1.00
MXI03409	0.360	0.034	2.500	4.70	6.81	0.30	1.00	4.00	6.70	0.30	0.90
MXI03410	0.360	0.034	2.750	4.70	7.63	0.30	0.90	4.00	7.51	0.30	0.80
MXI03411	0.360	0.034	3.000	4.70	8.45	0.30	0.80	4.00	8.32	0.30	0.70
MXI03412	0.360	0.034	4.000	4.70	11.74	0.30	0.60	4.00	11.56	0.30	0.50
MXI03413	0.360	0.034	5.000	4.70	15.03	0.30	0.40	4.00	14.79	0.30	0.40

MXI03701	0.360	0.037	1.000	5.90	1.72	0.50	7.60	5.00	1.70	0.40	6.60
MXI03702	0.360	0.037	1.125	5.90	2.08	0.50	5.70	5.00	2.05	0.40	5.00
MXI03703	0.360	0.037	1.250	5.90	2.43	0.50	4.60	5.00	2.40	0.40	4.00
MXI03704	0.360	0.037	1.375	5.90	2.79	0.50	3.90	5.00	2.75	0.40	3.40
MXI03705	0.360	0.037	1.500	5.90	3.14	0.50	3.30	5.00	3.10	0.40	2.90
MXI03706	0.360	0.037	1.750	5.90	3.85	0.50	2.60	5.00	3.80	0.40	2.30
MXI03707	0.360	0.037	2.000	5.90	4.56	0.50	2.10	5.00	4.50	0.40	1.80
MXI03708	0.360	0.037	2.250	5.90	5.27	0.50	1.80	5.00	5.20	0.40	1.60
MXI03709	0.360	0.037	2.500	5.90	5.98	0.50	1.60	5.00	5.89	0.40	1.40
MXI03710	0.360	0.037	2.750	5.90	6.69	0.50	1.40	5.00	6.59	0.40	1.20
MXI03711	0.360	0.037	3.000	5.90	7.40	0.50	1.20	5.00	7.29	0.40	1.10
MXI03712	0.360	0.037	4.000	5.90	10.25	0.50	0.90	5.00	10.09	0.40	0.80
MXI03713	0.360	0.037	5.000	5.90	13.09	0.50	0.70	5.00	12.88	0.40	0.60

MXI03901	0.360	0.039	1.000	6.90	1.64	0.60	9.90	5.90	1.62	0.50	8.60
MXI03902	0.360	0.039	1.125	6.90	1.96	0.60	7.50	5.90	1.94	0.50	6.50
MXI03903	0.360	0.039	1.250	6.90	2.29	0.60	6.10	5.90	2.26	0.50	5.30
MXI03904	0.360	0.039	1.375	6.90	2.61	0.60	5.10	5.90	2.58	0.50	4.40
MXI03905	0.360	0.039	1.500	6.90	2.94	0.60	4.40	5.90	2.90	0.50	3.80
MXI03906	0.360	0.039	1.750	6.90	3.59	0.60	3.40	5.90	3.54	0.50	3.00
MXI03907	0.360	0.039	2.000	6.90	4.24	0.60	2.80	5.90	4.18	0.50	2.40
MXI03908	0.360	0.039	2.250	6.90	4.89	0.60	2.40	5.90	4.82	0.50	2.10
MXI03909	0.360	0.039	2.500	6.90	5.54	0.60	2.10	5.90	5.47	0.50	1.80
MXI03910	0.360	0.039	2.750	6.90	6.19	0.60	1.80	5.90	6.11	0.50	1.60
MXI03911	0.360	0.039	3.000	6.90	6.84	0.60	1.60	5.90	6.75	0.50	1.40

MXI04101	0.360	0.041	1.000	7.90	1.56	0.80	12.70	6.70	1.55	0.60	11.10
MXI04102	0.360	0.041	1.125	7.90	1.86	0.80	9.70	6.70	1.84	0.60	8.40
MXI04103	0.360	0.041	1.250	7.90	2.15	0.80	7.90	6.70	2.14	0.60	6.80
MXI04104	0.360	0.041	1.375	7.90	2.45	0.80	6.60	6.70	2.43	0.60	5.70
MXI04105	0.360	0.041	1.500	7.90	2.75	0.80	5.70	6.70	2.73	0.60	4.90
MXI04106	0.360	0.041	1.750	7.90	3.35	0.80	4.40	6.70	3.32	0.60	3.90
MXI04107	0.360	0.041	2.000	7.90	3.94	0.80	3.70	6.70	3.91	0.60	3.20
MXI04108	0.360	0.041	2.250	7.90	4.54	0.80	3.10	6.70	4.50	0.60	2.70



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXI04109	0.360	0.041	2.500	7.90	5.14	0.80	2.70	6.70	5.09	0.60	2.30
MXI04110	0.360	0.041	2.750	7.90	5.73	0.80	2.40	6.70	5.68	0.60	2.10
MXI04111	0.360	0.041	3.000	7.90	6.33	0.80	2.10	6.70	6.27	0.60	1.90
MXI04112	0.360	0.041	3.500	7.90	7.52	0.80	1.80	6.70	7.45	0.60	1.50
MXI04113	0.360	0.041	4.000	7.90	8.72	0.80	1.50	6.70	8.63	0.60	1.30
MXI04114	0.360	0.041	5.000	7.90	11.10	0.80	1.20	6.70	10.99	0.60	1.00

MXI04501	0.360	0.045	1.000	10.10	1.44	1.10	20.40	8.70	1.43	0.90	17.80
MXI04502	0.360	0.045	1.125	10.10	1.70	1.10	15.70	8.70	1.69	0.90	13.70
MXI04503	0.360	0.045	1.250	10.10	1.96	1.10	12.80	8.70	1.95	0.90	11.10
MXI04504	0.360	0.045	1.375	10.10	2.22	1.10	10.70	8.70	2.20	0.90	9.30
MXI04505	0.360	0.045	1.500	10.10	2.47	1.10	9.30	8.70	2.46	0.90	8.10
MXI04506	0.360	0.045	1.750	10.10	2.99	1.10	7.30	8.70	2.97	0.90	6.30
MXI04507	0.360	0.045	2.000	10.10	3.51	1.10	6.00	8.70	3.48	0.90	5.20
MXI04508	0.360	0.045	2.250	10.10	4.02	1.10	5.10	8.70	3.99	0.90	4.40
MXI04509	0.360	0.045	2.500	10.10	4.54	1.10	4.40	8.70	4.50	0.90	3.90
MXI04510	0.360	0.045	2.750	10.10	5.05	1.10	3.90	8.70	5.01	0.90	3.40
MXI04511	0.360	0.045	3.000	10.10	5.57	1.10	3.50	8.70	5.53	0.90	3.10
MXI04512	0.360	0.045	3.500	10.10	6.60	1.10	2.90	8.70	6.55	0.90	2.50
MXI04513	0.360	0.045	4.000	10.10	7.64	1.10	2.50	8.70	7.57	0.90	2.20
MXI04514	0.360	0.045	4.500	10.10	8.67	1.10	2.20	8.70	8.60	0.90	1.90
MXI04515	0.360	0.045	5.000	10.10	9.70	1.10	1.90	8.70	9.62	0.90	1.70

MXI04901	0.360	0.049	1.000	12.90	1.36	1.50	31.60	11.00	1.35	1.30	27.50
MXI04902	0.360	0.049	1.125	12.90	1.59	1.50	24.50	11.00	1.58	1.30	21.30
MXI04903	0.360	0.049	1.250	12.90	1.82	1.50	19.90	11.00	1.81	1.30	17.30
MXI04904	0.360	0.049	1.375	12.90	2.05	1.50	16.80	11.00	2.04	1.30	14.60
MXI04905	0.360	0.049	1.500	12.90	2.28	1.50	14.60	11.00	2.26	1.30	12.70
MXI04906	0.360	0.049	1.750	12.90	2.74	1.50	11.50	11.00	2.72	1.30	10.00
MXI04907	0.360	0.049	2.000	12.90	3.20	1.50	9.50	11.00	3.17	1.30	8.20
MXI04908	0.360	0.049	2.250	12.90	3.66	1.50	8.00	11.00	3.63	1.30	7.00
MXI04909	0.360	0.049	2.500	12.90	4.12	1.50	7.00	11.00	4.09	1.30	6.10
MXI04910	0.360	0.049	2.750	12.90	4.58	1.50	6.20	11.00	4.54	1.30	5.40
MXI04911	0.360	0.049	3.000	12.90	5.04	1.50	5.60	11.00	5.00	1.30	4.80
MXI04912	0.360	0.049	3.500	12.90	5.96	1.50	4.60	11.00	5.91	1.30	4.00
MXI04913	0.360	0.049	4.000	12.90	6.88	1.50	3.90	11.00	6.82	1.30	3.40
MXI04914	0.360	0.049	4.500	12.90	7.80	1.50	3.40	11.00	7.73	1.30	3.00
MXI04915	0.360	0.049	5.000	12.90	8.71	1.50	3.00	11.00	8.64	1.30	2.70

MXI05501	0.360	0.055	1.000	17.60	1.27	2.40	57.30	15.30	1.26	2.10	49.80
MXI05502	0.360	0.055	1.125	17.60	1.47	2.40	44.70	15.30	1.46	2.10	38.90
MXI05503	0.360	0.055	1.250	17.60	1.66	2.40	36.70	15.30	1.66	2.10	31.90
MXI05504	0.360	0.055	1.375	17.60	1.86	2.40	31.10	15.30	1.86	2.10	27.00
MXI05505	0.360	0.055	1.500	17.60	2.06	2.40	27.00	15.30	2.06	2.10	23.50
MXI05506	0.360	0.055	1.750	17.60	2.46	2.40	21.30	15.30	2.46	2.10	18.60
MXI05507	0.360	0.055	2.000	17.60	2.86	2.40	17.60	15.30	2.86	2.10	15.30
MXI05508	0.360	0.055	2.250	17.60	3.26	2.40	15.00	15.30	3.26	2.10	13.10
MXI05509	0.360	0.055	2.500	17.60	3.66	2.40	13.10	15.30	3.66	2.10	11.40
MXI05510	0.360	0.055	2.750	17.60	4.06	2.40	11.60	15.30	4.06	2.10	10.10
MXI05511	0.360	0.055	3.000	17.60	4.46	2.40	10.40	15.30	4.45	2.10	9.10
MXI05512	0.360	0.055	3.500	17.60	5.26	2.40	8.70	15.30	5.25	2.10	7.50
MXI05513	0.360	0.055	4.000	17.60	6.06	2.40	7.40	15.30	6.05	2.10	6.40



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXI05514	0.360	0.055	4.500	17.60	6.86	2.40	6.50	15.30	6.85	2.10	5.60
MXI05515	0.360	0.055	5.000	17.60	7.65	2.40	5.70	15.30	7.64	2.10	5.00
MXI05516	0.360	0.055	5.500	17.60	8.45	2.40	5.20	15.30	8.44	2.10	4.50
MXI05517	0.360	0.055	6.000	17.60	9.25	2.40	4.70	15.30	9.24	2.10	4.10

MXI05801	0.360	0.058	1.000	20.50	1.23	3.00	75.50	17.70	1.23	2.50	65.60
MXI05802	0.360	0.058	1.125	20.50	1.42	3.00	59.20	17.70	1.42	2.50	51.40
MXI05803	0.360	0.058	1.250	20.50	1.61	3.00	48.70	17.70	1.61	2.50	42.30
MXI05804	0.360	0.058	1.375	20.50	1.80	3.00	41.30	17.70	1.80	2.50	35.90
MXI05805	0.360	0.058	1.500	20.50	1.99	3.00	35.90	17.70	1.98	2.50	31.20
MXI05806	0.360	0.058	1.750	20.50	2.37	3.00	28.50	17.70	2.36	2.50	24.70
MXI05807	0.360	0.058	2.000	20.50	2.75	3.00	23.60	17.70	2.74	2.50	20.50
MXI05808	0.360	0.058	2.250	20.50	3.13	3.00	20.10	17.70	3.12	2.50	17.50
MXI05809	0.360	0.058	2.500	20.50	3.50	3.00	17.50	17.70	3.49	2.50	15.20
MXI05810	0.360	0.058	2.750	20.50	3.88	3.00	15.50	17.70	3.87	2.50	13.50
MXI05811	0.360	0.058	3.000	20.50	4.26	3.00	14.00	17.70	4.25	2.50	12.10
MXI05812	0.360	0.058	4.000	20.50	5.77	3.00	9.90	17.70	5.75	2.50	8.60
MXI05813	0.360	0.058	5.000	20.50	7.29	3.00	7.70	17.70	7.26	2.50	6.70

MXK03701	0.420	0.037	1.000	5.10	1.73	0.40	6.50	4.30	1.71	0.30	5.70
MXK03702	0.420	0.037	1.125	5.10	2.19	0.40	4.50	4.30	2.16	0.30	3.90
MXK03703	0.420	0.037	1.250	5.10	2.65	0.40	3.40	4.30	2.61	0.30	3.00
MXK03704	0.420	0.037	1.375	5.10	3.11	0.40	2.70	4.30	3.07	0.30	2.40
MXK03705	0.420	0.037	1.500	5.10	3.57	0.40	2.30	4.30	3.52	0.30	2.00
MXK03706	0.420	0.037	1.750	5.10	4.49	0.40	1.70	4.30	4.42	0.30	1.50
MXK03707	0.420	0.037	2.000	5.10	5.42	0.40	1.40	4.30	5.33	0.30	1.20
MXK03708	0.420	0.037	2.250	5.10	6.34	0.40	1.20	4.30	6.23	0.30	1.00
MXK03709	0.420	0.037	2.500	5.10	7.26	0.40	1.00	4.30	7.14	0.30	0.90
MXK03710	0.420	0.037	2.750	5.10	8.18	0.40	0.90	4.30	8.04	0.30	0.80
MXK03711	0.420	0.037	3.000	5.10	9.10	0.40	0.80	4.30	8.95	0.30	0.70

MXK04501	0.420	0.045	1.000	8.80	1.47	0.80	17.10	7.50	1.46	0.70	14.80
MXK04502	0.420	0.045	1.125	8.80	1.79	0.80	12.00	7.50	1.78	0.70	10.40
MXK04503	0.420	0.045	1.250	8.80	2.11	0.80	9.20	7.50	2.10	0.70	8.00
MXK04504	0.420	0.045	1.375	8.80	2.44	0.80	7.50	7.50	2.42	0.70	6.50
MXK04505	0.420	0.045	1.500	8.80	2.76	0.80	6.30	7.50	2.74	0.70	5.50
MXK04506	0.420	0.045	1.750	8.80	3.41	0.80	4.80	7.50	3.38	0.70	4.20
MXK04507	0.420	0.045	2.000	8.80	4.05	0.80	3.90	7.50	4.02	0.70	3.40
MXK04508	0.420	0.045	2.250	8.80	4.70	0.80	3.30	7.50	4.66	0.70	2.80
MXK04509	0.420	0.045	2.500	8.80	5.35	0.80	2.80	7.50	5.30	0.70	2.40
MXK04510	0.420	0.045	2.750	8.80	5.99	0.80	2.50	7.50	5.94	0.70	2.10
MXK04511	0.420	0.045	3.000	8.80	6.64	0.80	2.20	7.50	6.58	0.70	1.90

MXK05501	0.420	0.055	1.000	15.30	1.30	1.80	45.80	13.30	1.29	1.60	39.80
MXK05502	0.420	0.055	1.125	15.30	1.53	1.80	33.10	13.30	1.53	1.60	28.70
MXK05503	0.420	0.055	1.250	15.30	1.77	1.80	25.90	13.30	1.77	1.60	22.50
MXK05504	0.420	0.055	1.375	15.30	2.01	1.80	21.30	13.30	2.01	1.60	18.50
MXK05505	0.420	0.055	1.500	15.30	2.25	1.80	18.00	13.30	2.25	1.60	15.70
MXK05506	0.420	0.055	1.750	15.30	2.73	1.80	13.80	13.30	2.73	1.60	12.00
MXK05507	0.420	0.055	2.000	15.30	3.21	1.80	11.20	13.30	3.20	1.60	9.80
MXK05508	0.420	0.055	2.250	15.30	3.68	1.80	9.40	13.30	3.68	1.60	8.20
MXK05509	0.420	0.055	2.500	15.30	4.16	1.80	8.20	13.30	4.16	1.60	7.10



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXK05510	0.420	0.055	2.750	15.30	4.64	1.80	7.20	13.30	4.63	1.60	6.20
MXK05511	0.420	0.055	3.000	15.30	5.12	1.80	6.40	13.30	5.11	1.60	5.60

MXM03401	0.500	0.034	1.250	3.40	3.02	0.20	1.80	2.90	2.98	0.10	1.60
MXM03402	0.500	0.034	1.375	3.40	3.77	0.20	1.40	2.90	3.72	0.10	1.20
MXM03403	0.500	0.034	1.500	3.40	4.53	0.20	1.10	2.90	4.45	0.10	0.90
MXM03404	0.500	0.034	1.750	3.40	6.03	0.20	0.80	2.90	5.93	0.10	0.70
MXM03405	0.500	0.034	2.000	3.40	7.54	0.20	0.60	2.90	7.41	0.10	0.50
MXM03406	0.500	0.034	2.250	3.40	9.05	0.20	0.50	2.90	8.88	0.10	0.40

MXM03701	0.500	0.037	1.250	4.30	2.72	0.20	2.80	3.70	2.69	0.20	2.40
MXM03702	0.500	0.037	1.375	4.30	3.36	0.20	2.10	3.70	3.31	0.20	1.80
MXM03703	0.500	0.037	1.500	4.30	3.99	0.20	1.60	3.70	3.93	0.20	1.40
MXM03704	0.500	0.037	1.750	4.30	5.26	0.20	1.20	3.70	5.17	0.20	1.00
MXM03705	0.500	0.037	2.000	4.30	6.54	0.20	0.90	3.70	6.42	0.20	0.80
MXM03706	0.500	0.037	2.250	4.30	7.81	0.20	0.70	3.70	7.66	0.20	0.60

MXM04101	0.500	0.041	1.250	5.80	2.42	0.40	4.60	4.90	2.40	0.30	4.00
MXM04102	0.500	0.041	1.375	5.80	2.93	0.40	3.50	4.90	2.91	0.30	3.00
MXM04103	0.500	0.041	1.500	5.80	3.45	0.40	2.80	4.90	3.42	0.30	2.40
MXM04104	0.500	0.041	1.750	5.80	4.48	0.40	2.00	4.90	4.44	0.30	1.70
MXM04105	0.500	0.041	2.000	5.80	5.52	0.40	1.50	4.90	5.45	0.30	1.30
MXM04106	0.500	0.041	2.250	5.80	6.55	0.40	1.30	4.90	6.47	0.30	1.10
MXM04107	0.500	0.041	2.500	5.80	7.58	0.40	1.10	4.90	7.49	0.30	0.90
MXM04108	0.500	0.041	2.750	5.80	8.62	0.40	0.90	4.90	8.51	0.30	0.80
MXM04109	0.500	0.041	3.000	5.80	9.65	0.40	0.80	4.90	9.53	0.30	0.70
MXM04110	0.500	0.041	4.000	5.80	13.78	0.40	0.60	4.90	13.61	0.30	0.50
MXM04111	0.500	0.041	5.000	5.80	17.92	0.40	0.40	4.90	17.68	0.30	0.40

MXM04501	0.500	0.045	1.250	7.40	2.19	0.50	7.30	6.40	2.18	0.50	6.40
MXM04502	0.500	0.045	1.375	7.40	2.62	0.50	5.50	6.40	2.60	0.50	4.80
MXM04503	0.500	0.045	1.500	7.40	3.05	0.50	4.40	6.40	3.03	0.50	3.90
MXM04504	0.500	0.045	1.750	7.40	3.92	0.50	3.20	6.40	3.88	0.50	2.80
MXM04505	0.500	0.045	2.000	7.40	4.78	0.50	2.50	6.40	4.73	0.50	2.20
MXM04506	0.500	0.045	2.250	7.40	5.64	0.50	2.00	6.40	5.58	0.50	1.80
MXM04507	0.500	0.045	2.500	7.40	6.50	0.50	1.70	6.40	6.43	0.50	1.50
MXM04508	0.500	0.045	2.750	7.40	7.36	0.50	1.50	6.40	7.28	0.50	1.30
MXM04509	0.500	0.045	3.000	7.40	8.23	0.50	1.30	6.40	8.14	0.50	1.10
MXM04510	0.500	0.045	4.000	7.40	11.67	0.50	0.90	6.40	11.54	0.50	0.80
MXM04511	0.500	0.045	5.000	7.40	15.12	0.50	0.70	6.40	14.95	0.50	0.60

MXM04901	0.500	0.049	1.250	9.50	2.03	0.80	11.10	8.10	2.01	0.70	9.70
MXM04902	0.500	0.049	1.375	9.50	2.40	0.80	8.50	8.10	2.38	0.70	7.40
MXM04903	0.500	0.049	1.500	9.50	2.77	0.80	6.80	8.10	2.75	0.70	5.90
MXM04904	0.500	0.049	1.750	9.50	3.51	0.80	4.90	8.10	3.48	0.70	4.30
MXM04905	0.500	0.049	2.000	9.50	4.25	0.80	3.90	8.10	4.21	0.70	3.40
MXM04906	0.500	0.049	2.250	9.50	4.99	0.80	3.20	8.10	4.94	0.70	2.80
MXM04907	0.500	0.049	2.500	9.50	5.73	0.80	2.70	8.10	5.67	0.70	2.30
MXM04908	0.500	0.049	2.750	9.50	6.47	0.80	2.30	8.10	6.40	0.70	2.00
MXM04909	0.500	0.049	3.000	9.50	7.21	0.80	2.10	8.10	7.13	0.70	1.80
MXM04910	0.500	0.049	3.500	9.50	8.70	0.80	1.70	8.10	8.60	0.70	1.50
MXM04911	0.500	0.049	4.000	9.50	10.18	0.80	1.40	8.10	10.06	0.70	1.20



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXM04912	0.500	0.049	5.000	9.50	13.14	0.80	1.10	8.10	12.98	0.70	0.90

MXM05501	0.500	0.055	1.250	13.00	1.85	1.30	19.80	11.30	1.84	1.10	17.20
MXM05502	0.500	0.055	1.375	13.00	2.15	1.30	15.20	11.30	2.15	1.10	13.20
MXM05503	0.500	0.055	1.500	13.00	2.45	1.30	12.30	11.30	2.45	1.10	10.70
MXM05504	0.500	0.055	1.750	13.00	3.06	1.30	9.00	11.30	3.06	1.10	7.80
MXM05505	0.500	0.055	2.000	13.00	3.67	1.30	7.00	11.30	3.67	1.10	6.10
MXM05506	0.500	0.055	2.250	13.00	4.28	1.30	5.80	11.30	4.27	1.10	5.00
MXM05507	0.500	0.055	2.500	13.00	4.89	1.30	4.90	11.30	4.88	1.10	4.30
MXM05508	0.500	0.055	2.750	13.00	5.50	1.30	4.30	11.30	5.49	1.10	3.70
MXM05509	0.500	0.055	3.000	13.00	6.11	1.30	3.80	11.30	6.10	1.10	3.30
MXM05510	0.500	0.055	3.500	13.00	7.32	1.30	3.10	11.30	7.31	1.10	2.70
MXM05511	0.500	0.055	4.000	13.00	8.54	1.30	2.60	11.30	8.53	1.10	2.30
MXM05512	0.500	0.055	4.500	13.00	9.76	1.30	2.20	11.30	9.74	1.10	1.90
MXM05513	0.500	0.055	5.000	13.00	10.98	1.30	2.00	11.30	10.96	1.10	1.70

MXM06301	0.500	0.063	1.250	19.00	1.68	2.20	38.90	16.40	1.68	1.90	33.90
MXM06302	0.500	0.063	1.375	19.00	1.93	2.20	30.30	16.40	1.93	1.90	26.40
MXM06303	0.500	0.063	1.500	19.00	2.18	2.20	24.80	16.40	2.17	1.90	21.60
MXM06304	0.500	0.063	1.750	19.00	2.67	2.20	18.20	16.40	2.67	1.90	15.80
MXM06305	0.500	0.063	2.000	19.00	3.17	2.20	14.40	16.40	3.16	1.90	12.50
MXM06306	0.500	0.063	2.250	19.00	3.66	2.20	11.90	16.40	3.66	1.90	10.30
MXM06307	0.500	0.063	2.500	19.00	4.16	2.20	10.10	16.40	4.15	1.90	8.80
MXM06308	0.500	0.063	2.750	19.00	4.65	2.20	8.80	16.40	4.65	1.90	7.70
MXM06309	0.500	0.063	3.000	19.00	5.15	2.20	7.80	16.40	5.14	1.90	6.80
MXM06310	0.500	0.063	3.500	19.00	6.14	2.20	6.40	16.40	6.13	1.90	5.50
MXM06311	0.500	0.063	4.000	19.00	7.13	2.20	5.40	16.40	7.12	1.90	4.70
MXM06312	0.500	0.063	4.500	19.00	8.12	2.20	4.60	16.40	8.11	1.90	4.00
MXM06313	0.500	0.063	5.000	19.00	9.11	2.20	4.10	16.40	9.10	1.90	3.50

MXN05501	0.625	0.055	1.500	10.60	2.54	0.80	9.40	9.20	2.54	0.70	8.20
MXN05502	0.625	0.055	1.750	10.60	3.42	0.80	5.90	9.20	3.41	0.70	5.10
MXN05503	0.625	0.055	2.000	10.60	4.29	0.80	4.30	9.20	4.28	0.70	3.70
MXN05504	0.625	0.055	2.250	10.60	5.17	0.80	3.40	9.20	5.16	0.70	2.90
MXN05505	0.625	0.055	2.500	10.60	6.04	0.80	2.80	9.20	6.03	0.70	2.40
MXN05506	0.625	0.055	2.750	10.60	6.92	0.80	2.30	9.20	6.91	0.70	2.00
MXN05507	0.625	0.055	3.000	10.60	7.80	0.80	2.00	9.20	7.78	0.70	1.80
MXN05508	0.625	0.055	3.500	10.60	9.55	0.80	1.60	9.20	9.53	0.70	1.40
MXN05509	0.625	0.055	4.000	10.60	11.30	0.80	1.30	9.20	11.28	0.70	1.20

MXN06301	0.625	0.063	1.500	15.40	2.27	1.40	18.30	13.30	2.26	1.20	15.90
MXN06302	0.625	0.063	1.750	15.40	2.95	1.40	11.70	13.30	2.95	1.20	10.10
MXN06303	0.625	0.063	2.000	15.40	3.64	1.40	8.60	13.30	3.63	1.20	7.40
MXN06304	0.625	0.063	2.250	15.40	4.32	1.40	6.80	13.30	4.32	1.20	5.90
MXN06305	0.625	0.063	2.500	15.40	5.01	1.40	5.60	13.30	5.00	1.20	4.90
MXN06306	0.625	0.063	2.750	15.40	5.70	1.40	4.80	13.30	5.69	1.20	4.10
MXN06307	0.625	0.063	3.000	15.40	6.38	1.40	4.10	13.30	6.37	1.20	3.60
MXN06308	0.625	0.063	3.500	15.40	7.76	1.40	3.30	13.30	7.74	1.20	2.90
MXN06309	0.625	0.063	4.000	15.40	9.13	1.40	2.70	13.30	9.11	1.20	2.40
MXN06310	0.625	0.063	4.500	15.40	10.50	1.40	2.30	13.30	10.48	1.20	2.00
MXN06311	0.625	0.063	5.000	15.40	11.87	1.40	2.00	13.30	11.85	1.20	1.80



MURPHY & READ SPRING MANUFACTURING CO.

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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXN06901	0.625	0.069	1.750	19.90	2.72	2.00	18.50	17.20	2.71	1.70	16.10
MXN06902	0.625	0.069	2.000	19.90	3.31	2.00	13.70	17.20	3.30	1.70	11.90
MXN06903	0.625	0.069	2.250	19.90	3.90	2.00	10.80	17.20	3.89	1.70	9.40
MXN06904	0.625	0.069	2.500	19.90	4.50	2.00	9.00	17.20	4.48	1.70	7.80
MXN06905	0.625	0.069	2.750	19.90	5.09	2.00	7.70	17.20	5.07	1.70	6.70
MXN06906	0.625	0.069	3.000	19.90	5.68	2.00	6.70	17.20	5.66	1.70	5.80
MXN06907	0.625	0.069	3.500	19.90	6.86	2.00	5.30	17.20	6.84	1.70	4.60
MXN06908	0.625	0.069	4.000	19.90	8.05	2.00	4.40	17.20	8.01	1.70	3.80
MXN06909	0.625	0.069	4.500	19.90	9.23	2.00	3.80	17.20	9.19	1.70	3.30
MXN06910	0.625	0.069	5.000	19.90	10.42	2.00	3.30	17.20	10.37	1.70	2.90

MXO05501	0.750	0.055	2.000	8.90	4.58	0.50	3.20	7.70	4.57	0.40	2.80
MXO05502	0.750	0.055	2.250	8.90	5.80	0.50	2.40	7.70	5.79	0.40	2.00
MXO05503	0.750	0.055	2.500	8.90	7.02	0.50	1.80	7.70	7.01	0.40	1.60
MXO05504	0.750	0.055	2.750	8.90	8.24	0.50	1.50	7.70	8.22	0.40	1.30
MXO05505	0.750	0.055	3.000	8.90	9.46	0.50	1.30	7.70	9.44	0.40	1.10
MXO05506	0.750	0.055	3.500	8.90	11.90	0.50	1.00	7.70	11.88	0.40	0.90

MXO06301	0.750	0.063	2.000	12.90	3.88	0.90	6.40	11.20	3.88	0.80	5.60
MXO06302	0.750	0.063	2.250	12.90	4.82	0.90	4.70	11.20	4.81	0.80	4.10
MXO06303	0.750	0.063	2.500	12.90	5.75	0.90	3.70	11.20	5.74	0.80	3.20
MXO06304	0.750	0.063	2.750	12.90	6.69	0.90	3.10	11.20	6.67	0.80	2.70
MXO06305	0.750	0.063	3.000	12.90	7.62	0.90	2.60	11.20	7.60	0.80	2.30
MXO06306	0.750	0.063	3.500	12.90	9.49	0.90	2.00	11.20	9.47	0.80	1.70
MXO06307	0.750	0.063	4.000	12.90	11.35	0.90	1.60	11.20	11.33	0.80	1.40
MXO06308	0.750	0.063	4.500	12.90	13.22	0.90	1.40	11.20	13.19	0.80	1.20
MXO06309	0.750	0.063	5.000	12.90	15.09	0.90	1.20	11.20	15.06	0.80	1.00
MXO06310	0.750	0.063	5.500	12.90	16.96	0.90	1.10	11.20	16.92	0.80	0.90

MXO06901	0.750	0.069	2.000	16.80	3.53	1.40	10.10	14.50	3.52	1.20	8.80
MXO06902	0.750	0.069	2.250	16.80	4.32	1.40	7.40	14.50	4.30	1.20	6.50
MXO06903	0.750	0.069	2.500	16.80	5.11	1.40	5.90	14.50	5.09	1.20	5.10
MXO06904	0.750	0.069	2.750	16.80	5.90	1.40	4.90	14.50	5.88	1.20	4.20
MXO06905	0.750	0.069	3.000	16.80	6.70	1.40	4.20	14.50	6.66	1.20	3.60
MXO06906	0.750	0.069	3.500	16.80	8.28	1.40	3.20	14.50	8.24	1.20	2.80
MXO06907	0.750	0.069	4.000	16.80	9.86	1.40	2.60	14.50	9.81	1.20	2.30
MXO06908	0.750	0.069	4.500	16.80	11.44	1.40	2.20	14.50	11.38	1.20	1.90
MXO06909	0.750	0.069	5.000	16.80	13.03	1.40	1.90	14.50	12.96	1.20	1.70
MXO06910	0.750	0.069	5.500	16.80	14.61	1.40	1.70	14.50	14.53	1.20	1.50

MXO07501	0.750	0.075	2.000	21.20	3.26	1.90	15.30	18.10	3.24	1.60	13.30
MXO07502	0.750	0.075	2.250	21.20	3.95	1.90	11.40	18.10	3.92	1.60	9.90
MXO07503	0.750	0.075	2.500	21.20	4.63	1.90	9.10	18.10	4.59	1.60	7.90
MXO07504	0.750	0.075	2.750	21.20	5.32	1.90	7.50	18.10	5.27	1.60	6.50
MXO07505	0.750	0.075	3.000	21.20	6.00	1.90	6.40	18.10	5.95	1.60	5.60
MXO07506	0.750	0.075	3.500	21.20	7.37	1.90	5.00	18.10	7.30	1.60	4.30
MXO07507	0.750	0.075	4.000	21.20	8.74	1.90	4.10	18.10	8.65	1.60	3.50
MXO07508	0.750	0.075	4.500	21.20	10.11	1.90	3.40	18.10	10.01	1.60	3.00
MXO07509	0.750	0.075	5.000	21.20	11.48	1.90	3.00	18.10	11.36	1.60	2.60
MXO07510	0.750	0.075	5.500	21.20	12.85	1.90	2.60	18.10	12.72	1.60	2.30
MXO07511	0.750	0.075	6.000	21.20	14.22	1.90	2.30	18.10	14.07	1.60	2.00



MURPHY & READ SPRING MANUFACTURING CO.

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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXO08501	0.750	0.085	2.000	29.80	2.93	3.20	28.70	26.20	2.93	2.80	25.00
MXO08502	0.750	0.085	2.250	29.80	3.48	3.20	21.60	26.20	3.49	2.80	18.80
MXO08503	0.750	0.085	2.500	29.80	4.04	3.20	17.30	26.20	4.05	2.80	15.00
MXO08504	0.750	0.085	2.750	29.80	4.60	3.20	14.40	26.20	4.61	2.80	12.50
MXO08505	0.750	0.085	3.000	29.80	5.15	3.20	12.40	26.20	5.17	2.80	10.70
MXO08506	0.750	0.085	3.500	29.80	6.26	3.20	9.60	26.20	6.29	2.80	8.40
MXO08507	0.750	0.085	4.000	29.80	7.38	3.20	7.90	26.20	7.41	2.80	6.80
MXO08508	0.750	0.085	4.500	29.80	8.49	3.20	6.70	26.20	8.53	2.80	5.80
MXO08509	0.750	0.085	5.000	29.80	9.60	3.20	5.80	26.20	9.65	2.80	5.00

MXO09501	0.750	0.095	2.000	40.50	2.70	5.00	50.40	35.50	2.71	4.40	43.80
MXO09502	0.750	0.095	2.250	40.50	3.18	5.00	38.20	35.50	3.19	4.40	33.30
MXO09503	0.750	0.095	2.500	40.50	3.65	5.00	30.80	35.50	3.66	4.40	26.80
MXO09504	0.750	0.095	2.750	40.50	4.13	5.00	25.80	35.50	4.14	4.40	22.40
MXO09505	0.750	0.095	3.000	40.50	4.60	5.00	22.20	35.50	4.61	4.40	19.30
MXO09506	0.750	0.095	3.500	40.50	5.55	5.00	17.30	35.50	5.57	4.40	15.10
MXO09507	0.750	0.095	4.000	40.50	6.50	5.00	14.20	35.50	6.52	4.40	12.40
MXO09508	0.750	0.095	4.500	40.50	7.45	5.00	12.00	35.50	7.47	4.40	10.50
MXO09509	0.750	0.095	5.000	40.50	8.40	5.00	10.50	35.50	8.42	4.40	9.10

MXO10501	0.750	0.105	2.000	53.50	2.55	7.40	83.90	45.90	2.54	6.40	72.90
MXO10502	0.750	0.105	2.250	53.50	2.97	7.40	64.20	45.90	2.96	6.40	55.80
MXO10503	0.750	0.105	2.500	53.50	3.39	7.40	52.00	45.90	3.37	6.40	45.20
MXO10504	0.750	0.105	2.750	53.50	3.80	7.40	43.70	45.90	3.79	6.40	38.00
MXO10505	0.750	0.105	3.000	53.50	4.22	7.40	37.70	45.90	4.21	6.40	32.80
MXO10506	0.750	0.105	3.500	53.50	5.06	7.40	29.50	45.90	5.04	6.40	25.70
MXO10507	0.750	0.105	4.000	53.50	5.89	7.40	24.30	45.90	5.87	6.40	21.10
MXO10508	0.750	0.105	4.500	53.50	6.73	7.40	20.60	45.90	6.71	6.40	17.90
MXO10509	0.750	0.105	5.000	53.50	7.57	7.40	17.90	45.90	7.54	6.40	15.60

MXO11501	0.750	0.115	2.000	68.60	2.43	10.60	133.60	59.80	2.44	9.20	116.20
MXO11502	0.750	0.115	2.250	68.60	2.81	10.60	103.10	59.80	2.81	9.20	89.70
MXO11503	0.750	0.115	2.500	68.60	3.19	10.60	84.00	59.80	3.19	9.20	73.00
MXO11504	0.750	0.115	2.750	68.60	3.57	10.60	70.80	59.80	3.57	9.20	61.60
MXO11505	0.750	0.115	3.000	68.60	3.95	10.60	61.20	59.80	3.95	9.20	53.20
MXO11506	0.750	0.115	3.500	68.60	4.70	10.60	48.20	59.80	4.71	9.20	41.90
MXO11507	0.750	0.115	4.000	68.60	5.46	10.60	39.70	59.80	5.46	9.20	34.50
MXO11508	0.750	0.115	4.500	68.60	6.22	10.60	33.80	59.80	6.22	9.20	29.40
MXO11509	0.750	0.115	5.000	68.60	6.97	10.60	29.40	59.80	6.98	9.20	25.50

MXO12501	0.750	0.125	2.000	85.50	2.35	14.60	205.40	73.70	2.34	12.60	178.60
MXO12502	0.750	0.125	2.250	85.50	2.69	14.60	159.70	73.70	2.69	12.60	138.90
MXO12503	0.750	0.125	2.500	85.50	3.04	14.60	130.70	73.70	3.04	12.60	113.60
MXO12504	0.750	0.125	2.750	85.50	3.39	14.60	110.60	73.70	3.39	12.60	96.20
MXO12505	0.750	0.125	3.000	85.50	3.74	14.60	95.80	73.70	3.73	12.60	83.30
MXO12506	0.750	0.125	3.500	85.50	4.44	14.60	75.70	73.70	4.43	12.60	65.80
MXO12507	0.750	0.125	4.000	85.50	5.14	14.60	62.50	73.70	5.13	12.60	54.30
MXO12508	0.750	0.125	4.500	85.50	5.83	14.60	53.20	73.70	5.82	12.60	46.30
MXO12509	0.750	0.125	5.000	85.50	6.53	14.60	46.40	73.70	6.52	12.60	40.30

MXP05501	0.875	0.055	2.000	7.60	4.31	0.30	3.20	6.60	4.30	0.30	2.70
MXP05502	0.875	0.055	2.250	7.60	5.95	0.30	2.00	6.60	5.94	0.30	1.70



MURPHY & READ SPRING MANUFACTURING CO.

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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXP05503	0.875	0.055	2.500	7.60	7.59	0.30	1.40	6.60	7.58	0.30	1.20
MXP05504	0.875	0.055	2.750	7.60	9.24	0.30	1.10	6.60	9.21	0.30	1.00

MXP06301	0.875	0.063	2.250	11.20	4.97	0.60	3.90	9.70	4.97	0.50	3.40
MXP06302	0.875	0.063	2.500	11.20	6.21	0.60	2.80	9.70	6.20	0.50	2.50
MXP06303	0.875	0.063	2.750	11.20	7.45	0.60	2.20	9.70	7.44	0.50	1.90
MXP06304	0.875	0.063	3.000	11.20	8.69	0.60	1.90	9.70	8.67	0.50	1.60
MXP06305	0.875	0.063	3.500	11.20	11.17	0.60	1.40	9.70	11.14	0.50	1.20

MXP07501	0.875	0.075	2.250	18.20	4.10	1.40	9.20	15.60	4.06	1.20	8.00
MXP07502	0.875	0.075	2.500	18.20	4.98	1.40	6.80	15.60	4.94	1.20	5.90
MXP07503	0.875	0.075	2.750	18.20	5.87	1.40	5.40	15.60	5.81	1.20	4.70
MXP07504	0.875	0.075	3.000	18.20	6.76	1.40	4.50	15.60	6.69	1.20	3.90
MXP07505	0.875	0.075	3.500	18.20	8.53	1.40	3.40	15.60	8.44	1.20	2.90
MXP07506	0.875	0.075	4.000	18.20	10.30	1.40	2.70	15.60	10.19	1.20	2.30
MXP07507	0.875	0.075	4.500	18.20	12.08	1.40	2.20	15.60	11.94	1.20	1.90
MXP07508	0.875	0.075	5.000	18.20	13.85	1.40	1.90	15.60	13.69	1.20	1.70

MXP08501	0.875	0.085	2.250	25.80	3.62	2.30	17.10	22.60	3.63	2.00	14.90
MXP08502	0.875	0.085	2.500	25.80	4.32	2.30	12.90	22.60	4.34	2.00	11.20
MXP08503	0.875	0.085	2.750	25.80	5.03	2.30	10.30	22.60	5.05	2.00	9.00
MXP08504	0.875	0.085	3.000	25.80	5.73	2.30	8.60	22.60	5.76	2.00	7.50
MXP08505	0.875	0.085	3.500	25.80	7.14	2.30	6.50	22.60	7.17	2.00	5.60
MXP08506	0.875	0.085	4.000	25.80	8.54	2.30	5.20	22.60	8.59	2.00	4.50
MXP08507	0.875	0.085	4.500	25.80	9.95	2.30	4.30	22.60	10.00	2.00	3.70
MXP08508	0.875	0.085	5.000	25.80	11.36	2.30	3.70	22.60	11.42	2.00	3.20
MXP08509	0.875	0.085	5.500	25.80	12.76	2.30	3.20	22.60	12.83	2.00	2.80
MXP08510	0.875	0.085	6.000	25.80	14.17	2.30	2.90	22.60	14.25	2.00	2.50

MXQ06301	1.000	0.063	2.500	9.80	6.22	0.40	2.50	8.50	6.21	0.40	2.20
MXQ06302	1.000	0.063	2.750	9.80	7.82	0.40	1.80	8.50	7.81	0.40	1.60
MXQ06303	1.000	0.063	3.000	9.80	9.42	0.40	1.50	8.50	9.40	0.40	1.30
MXQ06304	1.000	0.063	3.500	9.80	12.62	0.40	1.00	8.50	12.60	0.40	0.90

MXQ07501	1.000	0.075	2.500	16.10	5.05	1.00	5.90	13.80	5.00	0.80	5.20
MXQ07502	1.000	0.075	2.750	16.10	6.17	1.00	4.40	13.80	6.11	0.80	3.80
MXQ07503	1.000	0.075	3.000	16.10	7.30	1.00	3.50	13.80	7.22	0.80	3.10
MXQ07504	1.000	0.075	3.500	16.10	9.56	1.00	2.50	13.80	9.45	0.80	2.20
MXQ07505	1.000	0.075	4.000	16.10	11.81	1.00	1.90	13.80	11.67	0.80	1.70
MXQ07506	1.000	0.075	4.500	16.10	14.07	1.00	1.60	13.80	13.89	0.80	1.40
MXQ07507	1.000	0.075	5.000	16.10	16.32	1.00	1.30	13.80	16.12	0.80	1.20

MXQ08501	1.000	0.085	2.500	22.70	4.40	1.70	11.00	19.90	4.42	1.50	9.60
MXQ08502	1.000	0.085	2.750	22.70	5.28	1.70	8.30	19.90	5.31	1.50	7.20
MXQ08503	1.000	0.085	3.000	22.70	6.16	1.70	6.60	19.90	6.19	1.50	5.80
MXQ08504	1.000	0.085	3.500	22.70	7.92	1.70	4.70	19.90	7.97	1.50	4.10
MXQ08505	1.000	0.085	4.000	22.70	9.68	1.70	3.70	19.90	9.74	1.50	3.20
MXQ08506	1.000	0.085	4.500	22.70	11.44	1.70	3.00	19.90	11.51	1.50	2.60
MXQ08507	1.000	0.085	5.000	22.70	13.20	1.70	2.60	19.90	13.29	1.50	2.20

MXQ09501	1.000	0.095	2.500	31.00	3.98	2.80	19.10	27.10	3.99	2.40	16.60
MXQ09502	1.000	0.095	2.750	31.00	4.70	2.80	14.50	27.10	4.71	2.40	12.60



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXQ09503	1.000	0.095	3.000	31.00	5.42	2.80	11.70	27.10	5.43	2.40	10.20
MXQ09504	1.000	0.095	3.500	31.00	6.86	2.80	8.40	27.10	6.88	2.40	7.30
MXQ09505	1.000	0.095	4.000	31.00	8.29	2.80	6.60	27.10	8.33	2.40	5.70
MXQ09506	1.000	0.095	4.500	31.00	9.73	2.80	5.40	27.10	9.77	2.40	4.70
MXQ09507	1.000	0.095	5.000	31.00	11.17	2.80	4.60	27.10	11.22	2.40	4.00
MXQ09508	1.000	0.095	5.500	31.00	12.61	2.80	4.00	27.10	12.67	2.40	3.40
MXQ09509	1.000	0.095	6.000	31.00	14.05	2.80	3.50	27.10	14.11	2.40	3.00
MXQ09510	1.000	0.095	7.000	31.00	16.93	2.80	2.80	27.10	17.01	2.40	2.50
MXQ09511	1.000	0.095	8.000	31.00	19.81	2.80	2.40	27.10	19.90	2.40	2.10
MXQ09512	1.000	0.095	9.000	31.00	22.69	2.80	2.10	27.10	22.79	2.40	1.80

MXQ10501	1.000	0.105	2.500	41.00	3.67	4.20	31.40	35.20	3.66	3.60	27.30
MXQ10502	1.000	0.105	2.750	41.00	4.28	4.20	24.00	35.20	4.26	3.60	20.90
MXQ10503	1.000	0.105	3.000	41.00	4.89	4.20	19.50	35.20	4.87	3.60	16.90
MXQ10504	1.000	0.105	3.500	41.00	6.11	4.20	14.10	35.20	6.08	3.60	12.30
MXQ10505	1.000	0.105	4.000	41.00	7.33	4.20	11.10	35.20	7.29	3.60	9.60
MXQ10506	1.000	0.105	4.500	41.00	8.55	4.20	9.10	35.20	8.50	3.60	7.90
MXQ10507	1.000	0.105	5.000	41.00	9.77	4.20	7.70	35.20	9.71	3.60	6.70
MXQ10508	1.000	0.105	5.500	41.00	10.98	4.20	6.70	35.20	10.92	3.60	5.80
MXQ10509	1.000	0.105	6.000	41.00	12.20	4.20	5.90	35.20	12.13	3.60	5.20
MXQ10510	1.000	0.105	7.000	41.00	14.64	4.20	4.80	35.20	14.55	3.60	4.20
MXQ10511	1.000	0.105	8.000	41.00	17.08	4.20	4.10	35.20	16.97	3.60	3.50
MXQ10512	1.000	0.105	9.000	41.00	19.52	4.20	3.50	35.20	19.39	3.60	3.00

MXQ11501	1.000	0.115	2.500	52.70	3.45	6.00	49.40	46.00	3.45	5.30	42.90
MXQ11502	1.000	0.115	2.750	52.70	3.98	6.00	38.10	46.00	3.98	5.30	33.10
MXQ11503	1.000	0.115	3.000	52.70	4.50	6.00	31.00	46.00	4.51	5.30	27.00
MXQ11504	1.000	0.115	3.500	52.70	5.56	6.00	22.60	46.00	5.57	5.30	19.70
MXQ11505	1.000	0.115	4.000	52.70	6.62	6.00	17.80	46.00	6.63	5.30	15.50
MXQ11506	1.000	0.115	4.500	52.70	7.68	6.00	14.70	46.00	7.69	5.30	12.70
MXQ11507	1.000	0.115	5.000	52.70	8.74	6.00	12.50	46.00	8.75	5.30	10.80
MXQ11508	1.000	0.115	5.500	52.70	9.80	6.00	10.80	46.00	9.81	5.30	9.40
MXQ11509	1.000	0.115	6.000	52.70	10.86	6.00	9.60	46.00	10.88	5.30	8.30
MXQ11510	1.000	0.115	7.000	52.70	12.98	6.00	7.80	46.00	13.00	5.30	6.80
MXQ11511	1.000	0.115	8.000	52.70	15.10	6.00	6.60	46.00	15.12	5.30	5.70
MXQ11512	1.000	0.115	9.000	52.70	17.22	6.00	5.70	46.00	17.24	5.30	4.90

MXQ12501	1.000	0.125	2.500	66.00	3.27	8.40	74.80	56.90	3.26	7.30	65.10
MXQ12502	1.000	0.125	2.750	66.00	3.74	8.40	58.20	56.90	3.73	7.30	50.60
MXQ12503	1.000	0.125	3.000	66.00	4.21	8.40	47.60	56.90	4.20	7.30	41.40
MXQ12504	1.000	0.125	3.500	66.00	5.15	8.40	34.90	56.90	5.13	7.30	30.40
MXQ12505	1.000	0.125	4.000	66.00	6.09	8.40	27.60	56.90	6.07	7.30	24.00
MXQ12506	1.000	0.125	4.500	66.00	7.03	8.40	22.80	56.90	7.01	7.30	19.80
MXQ12507	1.000	0.125	5.000	66.00	7.97	8.40	19.40	56.90	7.94	7.30	16.90
MXQ12508	1.000	0.125	5.500	66.00	8.91	8.40	16.90	56.90	8.88	7.30	14.70
MXQ12509	1.000	0.125	6.000	66.00	9.85	8.40	15.00	56.90	9.81	7.30	13.00
MXQ12510	1.000	0.125	7.000	66.00	11.73	8.40	12.20	56.90	11.68	7.30	10.60
MXQ12511	1.000	0.125	8.000	66.00	13.60	8.40	10.30	56.90	13.56	7.30	8.90
MXQ12512	1.000	0.125	9.000	66.00	15.48	8.40	8.90	56.90	15.43	7.30	7.70

MXQ13501	1.000	0.135	2.500	81.70	3.14	11.50	110.00	71.20	3.14	10.00	95.70
MXQ13502	1.000	0.135	2.750	81.70	3.56	11.50	86.20	71.20	3.57	10.00	75.00



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Stock Extension Springs

Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXQ13503	1.000	0.135	3.000	81.70	3.99	11.50	70.90	71.20	3.99	10.00	61.60
MXQ13504	1.000	0.135	3.500	81.70	4.84	11.50	52.30	71.20	4.85	10.00	45.50
MXQ13505	1.000	0.135	4.000	81.70	5.70	11.50	41.40	71.20	5.70	10.00	36.00
MXQ13506	1.000	0.135	4.500	81.70	6.55	11.50	34.30	71.20	6.55	10.00	29.80
MXQ13507	1.000	0.135	5.000	81.70	7.40	11.50	29.20	71.20	7.41	10.00	25.40
MXQ13508	1.000	0.135	5.500	81.70	8.25	11.50	25.50	71.20	8.26	10.00	22.20
MXQ13509	1.000	0.135	6.000	81.70	9.11	11.50	22.60	71.20	9.12	10.00	19.70
MXQ13510	1.000	0.135	7.000	81.70	10.81	11.50	18.40	71.20	10.82	10.00	16.00
MXQ13511	1.000	0.135	8.000	81.70	12.52	11.50	15.50	71.20	12.53	10.00	13.50
MXQ13512	1.000	0.135	9.000	81.70	14.22	11.50	13.40	71.20	14.24	10.00	11.70

MXR08501	1.125	0.085	3.000	20.30	6.36	1.30	5.60	17.90	6.40	1.10	4.90
MXR08502	1.125	0.085	3.500	20.30	8.54	1.30	3.80	17.90	8.59	1.10	3.30
MXR08503	1.125	0.085	4.000	20.30	10.71	1.30	2.80	17.90	10.78	1.10	2.50
MXR08504	1.125	0.085	4.500	20.30	12.89	1.30	2.30	17.90	12.97	1.10	2.00
MXR08505	1.125	0.085	5.000	20.30	15.06	1.30	1.90	17.90	15.16	1.10	1.60
MXR08506	1.125	0.085	5.500	20.30	17.23	1.30	1.60	17.90	17.35	1.10	1.40
MXR08507	1.125	0.085	6.000	20.30	19.41	1.30	1.40	17.90	19.54	1.10	1.20
MXR08508	1.125	0.085	6.500	20.30	21.58	1.30	1.30	17.90	21.73	1.10	1.10
MXR08509	1.125	0.085	7.000	20.30	23.76	1.30	1.10	17.90	23.92	1.10	1.00

MXR10501	1.125	0.105	3.000	36.60	5.06	3.20	16.20	31.50	5.03	2.80	14.10
MXR10502	1.125	0.105	3.500	36.60	6.52	3.20	11.00	31.50	6.49	2.80	9.60
MXR10503	1.125	0.105	4.000	36.60	7.99	3.20	8.40	31.50	7.94	2.80	7.30
MXR10504	1.125	0.105	4.500	36.60	9.46	3.20	6.70	31.50	9.40	2.80	5.90
MXR10505	1.125	0.105	5.000	36.60	10.92	3.20	5.60	31.50	10.85	2.80	4.90
MXR10506	1.125	0.105	5.500	36.60	12.39	3.20	4.80	31.50	12.31	2.80	4.20
MXR10507	1.125	0.105	6.000	36.60	13.86	3.20	4.30	31.50	13.76	2.80	3.70
MXR10508	1.125	0.105	6.500	36.60	15.32	3.20	3.80	31.50	15.22	2.80	3.30
MXR10509	1.125	0.105	7.000	36.60	16.79	3.20	3.40	31.50	16.67	2.80	3.00

MXR12501	1.125	0.125	3.000	59.20	4.35	6.70	39.00	51.00	4.34	5.70	33.90
MXR12502	1.125	0.125	3.500	59.20	5.45	6.70	27.00	51.00	5.43	5.70	23.50
MXR12503	1.125	0.125	4.000	59.20	6.54	6.70	20.60	51.00	6.52	5.70	18.00
MXR12504	1.125	0.125	4.500	59.20	7.64	6.70	16.70	51.00	7.62	5.70	14.50
MXR12505	1.125	0.125	5.000	59.20	8.74	6.70	14.00	51.00	8.71	5.70	12.20
MXR12506	1.125	0.125	5.500	59.20	9.84	6.70	12.10	51.00	9.80	5.70	10.50
MXR12507	1.125	0.125	6.000	59.20	10.94	6.70	10.60	51.00	10.90	5.70	9.20
MXR12508	1.125	0.125	6.500	59.20	12.04	6.70	9.50	51.00	11.99	5.70	8.20
MXR12509	1.125	0.125	7.000	59.20	13.14	6.70	8.60	51.00	13.08	5.70	7.40

MXS09501	1.250	0.095	3.500	25.00	7.66	1.60	5.60	21.90	7.69	1.40	4.90
MXS09502	1.250	0.095	4.000	25.00	9.78	1.60	4.00	21.90	9.82	1.40	3.50
MXS09503	1.250	0.095	4.500	25.00	11.90	1.60	3.20	21.90	11.95	1.40	2.70
MXS09504	1.250	0.095	5.000	25.00	14.02	1.60	2.60	21.90	14.08	1.40	2.30
MXS09505	1.250	0.095	5.500	25.00	16.14	1.60	2.20	21.90	16.21	1.40	1.90
MXS09506	1.250	0.095	6.000	25.00	18.26	1.60	1.90	21.90	18.34	1.40	1.70
MXS09507	1.250	0.095	6.500	25.00	20.37	1.60	1.70	21.90	20.48	1.40	1.50
MXS09508	1.250	0.095	7.000	25.00	22.49	1.60	1.50	21.90	22.61	1.40	1.30
MXS09509	1.250	0.095	7.500	25.00	24.61	1.60	1.40	21.90	24.74	1.40	1.20

MXS11501	1.250	0.115	3.500	42.70	6.15	3.80	14.70	37.30	6.16	3.30	12.80
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Stock Extension Springs

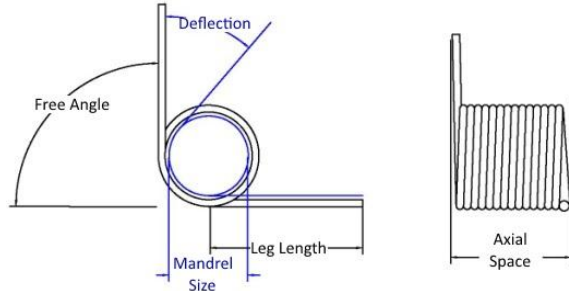
Stock Number	Music Wire							Stainless Steel			
	Outside Dia.	Wire Dia.	Free Length	Maximum Load	Maximum Extension	Initial Tension	Spring Rate	Maximum Load	Maximum Extension	Initial Tension	Spring Rate
MXS11502	1.250	0.115	4.000	42.70	7.64	3.80	10.70	37.30	7.65	3.30	9.30
MXS11503	1.250	0.115	4.500	42.70	9.12	3.80	8.40	37.30	9.13	3.30	7.30
MXS11504	1.250	0.115	5.000	42.70	10.61	3.80	7.00	37.30	10.62	3.30	6.00
MXS11505	1.250	0.115	5.500	42.70	12.09	3.80	5.90	37.30	12.11	3.30	5.10
MXS11506	1.250	0.115	6.000	42.70	13.58	3.80	5.10	37.30	13.60	3.30	4.50
MXS11507	1.250	0.115	6.500	42.70	15.06	3.80	4.60	37.30	15.09	3.30	4.00
MXS11508	1.250	0.115	7.000	42.70	16.55	3.80	4.10	37.30	16.58	3.30	3.50
MXS11509	1.250	0.115	7.500	42.70	18.03	3.80	3.70	37.30	18.06	3.30	3.20

MXS13501	1.250	0.135	3.500	66.10	5.27	7.30	33.10	57.60	5.28	6.40	28.80
MXS13502	1.250	0.135	4.000	66.10	6.41	7.30	24.40	57.60	6.41	6.40	21.20
MXS13503	1.250	0.135	4.500	66.10	7.54	7.30	19.30	57.60	7.55	6.40	16.80
MXS13504	1.250	0.135	5.000	66.10	8.67	7.30	16.00	57.60	8.68	6.40	13.90
MXS13505	1.250	0.135	5.500	66.10	9.80	7.30	13.70	57.60	9.81	6.40	11.90
MXS13506	1.250	0.135	6.000	66.10	10.93	7.30	11.90	57.60	10.95	6.40	10.40
MXS13507	1.250	0.135	6.500	66.10	12.06	7.30	10.60	57.60	12.08	6.40	9.20
MXS13508	1.250	0.135	7.000	66.10	13.20	7.30	9.50	57.60	13.21	6.40	8.20
MXS13509	1.250	0.135	7.500	66.10	14.33	7.30	8.60	57.60	14.35	6.40	7.50

MXS14801	1.250	0.148	3.500	85.20	4.91	10.60	52.80	70.40	4.84	8.80	45.90
MXS14802	1.250	0.148	4.000	85.20	5.90	10.60	39.20	70.40	5.81	8.80	34.10
MXS14803	1.250	0.148	4.500	85.20	6.89	10.60	31.20	70.40	6.77	8.80	27.10
MXS14804	1.250	0.148	5.000	85.20	7.88	10.60	25.90	70.40	7.74	8.80	22.50
MXS14805	1.250	0.148	5.500	85.20	8.87	10.60	22.10	70.40	8.70	8.80	19.30
MXS14806	1.250	0.148	6.000	85.20	9.85	10.60	19.30	70.40	9.66	8.80	16.80
MXS14807	1.250	0.148	6.500	85.20	10.84	10.60	17.20	70.40	10.63	8.80	14.90
MXS14808	1.250	0.148	7.000	85.20	11.83	10.60	15.40	70.40	11.59	8.80	13.40
MXS14809	1.250	0.148	7.500	85.20	12.82	10.60	14.00	70.40	12.56	8.80	12.20

TORSION SPRINGS

Torsion springs exert a torque when they are twisted or deflected. The spring torque and the length of the legs together create a force. Torsion springs can be made out of round, rectangular or shaped wire. A simple torsion spring has straight, but any bends or shapes can be formed. Double torsion springs can be used when twice the force is required or when you need an even distribution of torque.



Spring Terms

ID = Inside Diameter

D = Mean Diameter

D_m = Minimum Diameter under deflection

θ = Deflection angle

d = wire diameter

L = leg length

N_a = number of active coils

N_t = number of total coils

R = Spring Rate

P = applied force

M = Moment or Torque

S_b = bending stress

c = spring index

ΔL = deflection

UTS = Ultimate Tensile Strength

Calculations

$$D = ID + d$$

$$N_a = N_t + \frac{L}{3\pi d}$$

$$D_m = \frac{D * N_t}{N_t + \theta}$$

$$R = \frac{E * d^4}{10.8 * D * N_a}$$

$$S = \frac{32M}{\pi d^3} \times \frac{4c^2 - c - 1}{4c(c - 1)}$$

Material	Max. recommended % tensile
Music Wire	80%
Chrome Silicon	80%
Chrome Vanadium	80%
302 Stainless Steel	60%
316 Stainless Steel	60%
17-7 Stainless	75%

*stresses are for static and low cycle applications. Stresses should be reduced for high cycle numbers.

Design Tips

- Torsion springs should be deflected in the direction that closes the coils
- Inside diameters reduce to D_m when deflected. Mandrel size should be larger than D_m
- N_a takes into account the material in the legs. If the force is supplied close to the body of the spring N_t is a good approximation

Standard Torsion Springs

$$.985/.500=1.97 \text{ lbs}$$

Selection

First choose material type and helix. Next, select a range of wire diameter that you think may be appropriate. Finally, select the amount of deflection you expect to have in the application. Keep in mind that the amount of deflection is also the same as the free position of the ends (see illustrations). The broader the ranges selected the more options will be offered.

Material

Music Wire: ASTM-A228

250 degree maximum operating temperature.

Stainless Steel Type 302: ASTM-A313

500 degree maximum operating temperature

Torque:

Torque values shown are at the degree of deflection listed for each spring. To find the torque values for any other position simply use a direct proportion of the required position divided by the listed position, i.e. if the torque is listed as .500 in-lbs at 180 degrees deflection, what is the torque at 90 degrees?

$$(90 \text{ deg.}/180 \text{ deg.}) \times .500 \text{ in-lb} = .250 \text{ in-lb}$$

Values listed are for average use. These values can be increased by 20% for very light or static use. Infinite life can be obtained by reducing values by 20% and proper mounting.

Load:

This is the direct force applied at a given radius. Torque can be converted to load by the formula given below.

$$\text{Load (P)} = \text{Torque/Radius}$$

If a spring has a torque of .985 in-lbs at 180 degrees deflection, what is the load exerted at a .500 inch radius?

Tolerances:

Torque: $\pm 10\%$

Diameter: $\pm 5\%$

Direction of Helix:

Stock torsion springs are available in both right and left hand helix. The direction must be specified.

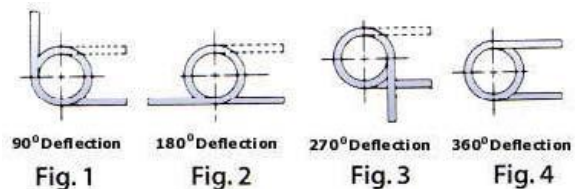
Torsion springs are designed to be used in the wrapped down position. If used in the opposite direction the loads available will be much lower than those listed.

Ends:

Straight legs are supplied as shown in the diagram. Special end configurations and forming can be supplied on request. To determine the end configuration in the free state match the degrees deflection to the appropriate figure below.

Mandrel Size:

The suggested mandrel size shown is for the listed deflection. If more deflection is required from a listed spring it will be necessary to reduce the mandrel size and allow additional axial space.





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Stock Torsion Springs

Stock Number	Music Wire									Stainless
	Wire	Outside	End Pos	Degrees	Torque	Leg	Mandrel	Axial	Total	Torque
	Diameter	Diameter	Fig #	Deflection	In-Lbs	Length	Size	Space	Coils	In-Lbs
MT012-01		0.102	1	90		0.375	0.062	0.060	3.25	
MT012-02		0.109	2	180		0.375	0.062	0.096	6.00	
MT012-03	0.012	0.102	3	270	0.049	0.375	0.062	0.144	9.75	0.046
MT012-04		0.158	2	180		0.500	0.092	0.072	4.00	
MT012-05		0.162	3	270		0.500	0.108	0.096	5.75	
MT012-06		0.168	4	360		0.500	0.108	0.120	7.50	
MT014-01		0.121	1	90		0.500	0.062	0.070	3.25	
MT014-02		0.130	2	180		0.500	0.078	0.112	6.00	
MT014-03	0.014	0.121	3	270	0.076	0.500	0.062	0.168	9.75	0.071
MT014-04		0.188	2	180		0.750	0.125	0.084	4.00	
MT014-05		0.196	3	270		0.750	0.125	0.112	5.75	
MT014-06		0.200	4	360		0.750	0.125	0.140	7.50	
MT015-01		0.131	1	90		0.500	0.078	0.075	3.25	
MT015-02		0.141	2	180		0.500	0.078	0.120	6.00	
MT015-03	0.015	0.131	3	270	0.093	0.500	0.078	0.180	9.75	0.087
MT015-04		0.204	2	180		0.750	0.125	0.090	4.00	
MT015-05		0.212	3	270		0.750	0.140	0.120	5.75	
MT015-06		0.216	4	360		0.750	0.140	0.150	7.50	
MT017-01		0.150	1	90		0.500	0.092	0.085	3.25	
MT017-02		0.161	2	180		0.500	0.092	0.136	6.00	
MT017-03	0.017	0.150	3	270	0.134	0.500	0.092	0.204	9.75	0.126
MT017-04		0.233	2	180		0.750	0.156	0.102	4.00	
MT017-05		0.242	3	270		0.750	0.156	0.136	5.75	
MT017-06		0.220	4	360		0.750	0.140	0.187	8.50	
MT018-01		0.161	1	90		0.500	0.092	0.090	3.25	
MT018-02		0.151	2	180		0.500	0.092	0.162	7.00	
MT018-03	0.018	0.148	3	270	0.156	0.500	0.092	0.233	10.75	0.146
MT018-04		0.204	2	180		0.750	0.125	0.125	5.00	
MT018-05		0.224	3	270		0.750	0.140	0.162	6.75	
MT018-06		0.214	4	360		0.750	0.140	0.216	9.50	
MT020-01		0.181	1	90		0.750	0.108	0.100	3.25	
MT020-02		0.170	2	180		0.750	0.092	0.180	7.00	
MT020-03	0.020	0.166	3	270	0.212	0.750	0.092	0.260	10.75	0.198
MT020-04		0.230	2	180		1.000	0.140	0.140	5.00	
MT020-05		0.253	3	270		1.000	0.170	0.180	6.75	
MT020-06		0.241	4	360		1.000	0.156	0.240	9.50	
MT021-01		0.191	1	90		0.750	0.108	0.105	3.25	
MT021-02		0.178	2	180		0.750	0.108	0.189	7.00	
MT021-03	0.021	0.175	3	270	0.245	0.750	0.108	0.273	10.75	0.229
MT021-04		0.241	2	180		1.000	0.156	0.147	5.00	
MT021-05		0.234	3	270		1.000	0.156	0.210	7.75	
MT021-06		0.253	4	360		1.000	0.156	0.251	9.50	
MT023-01		0.211	1	90		0.750	0.125	0.114	3.25	
MT023-02		0.198	2	180		0.750	0.125	0.207	7.00	



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Stock Torsion Springs

Stock Number	Music Wire									Stainless
	Wire	Outside	End Pos	Degrees	Torque	Leg	Mandrel	Axial	Total	Torque
	Diameter	Diameter	Fig #	Deflection	In-Lbs	Length	Size	Space	Coils	In-Lbs
MT023-03	0.023	0.194	3	270	0.317	0.750	0.108	0.298	10.75	0.296
MT023-04		0.268	2	180		1.000	0.170	0.161	5.00	
MT023-05		0.260	3	270		1.000	0.170	0.230	7.75	
MT023-06		0.281	4	360		1.000	0.186	0.276	9.50	
MT025-01		0.232	1	90		0.750	0.140	0.125	3.25	
MT025-02		0.217	2	180		0.750	0.125	0.225	7.00	
MT025-03	0.025	0.213	3	270	0.404	0.750	0.125	0.324	10.75	0.377
MT025-04		0.294	2	180		1.000	0.186	0.175	5.00	
MT025-05		0.324	3	270		1.000	0.217	0.225	6.75	
MT025-06		0.308	4	360		1.000	0.202	0.300	9.50	
MT028-01		0.266	1	90		1.000	0.170	0.140	3.25	
MT028-02		0.249	2	180		1.000	0.156	0.252	7.00	
MT028-03	0.028	0.243	3	270	0.553	1.000	0.156	0.364	10.75	0.516
MT028-04		0.337	2	180		1.000	0.217	0.196	5.00	
MT028-05		0.327	3	270		1.000	0.217	0.280	7.75	
MT028-06		0.353	4	360		1.000	0.233	0.336	9.50	
MT030-01		0.285	1	90		1.000	0.186	0.150	3.25	
MT030-02		0.266	2	180		1.000	0.170	0.270	7.00	
MT030-03	0.030	0.261	3	270	0.681	1.000	0.156	0.390	10.75	0.635
MT030-04		0.361	2	180		1.000	0.233	0.210	5.00	
MT030-05		0.350	3	270		1.000	0.233	0.300	7.75	
MT030-06		0.378	4	360		1.000	0.250	0.360	9.50	
MT032-01		0.304	1	90		1.000	0.186	0.160	3.25	
MT032-02		0.284	2	180		1.000	0.170	0.288	7.00	
MT032-03	0.032	0.278	3	270	0.824	1.000	0.170	0.416	10.75	0.769
MT032-04		0.385	2	180		1.000	0.250	0.224	5.00	
MT032-05		0.374	3	270		1.000	0.250	0.320	7.75	
MT032-06		0.404	4	360		1.000	0.265	0.384	9.50	
MT035-01		0.340	1	90		1.250	0.217	0.175	3.25	
MT035-02		0.318	2	180		1.250	0.202	0.314	7.00	
MT035-03	0.035	0.312	3	270	1.05	1.250	0.202	0.454	10.75	0.98
MT035-04		0.432	2	180		1.250	0.280	0.245	5.00	
MT035-05		0.419	3	270		1.250	0.280	0.349	7.75	
MT035-06		0.453	4	360		1.250	0.295	0.420	9.50	
MT038-01		0.376	1	90		1.250	0.250	0.190	3.25	
MT038-02		0.352	2	180		1.250	0.217	0.341	7.00	
MT038-03	0.038	0.344	3	270	1.32	1.250	0.217	0.493	10.75	1.23
MT038-04		0.477	2	180		1.250	0.312	0.266	5.00	
MT038-05		0.463	3	270		1.250	0.312	0.380	7.75	
MT038-06		0.500	4	360		1.250	0.342	0.456	9.50	
MT040-01		0.314	1	90		1.250	0.186	0.240	4.25	
MT040-02		0.332	2	180		1.250	0.202	0.400	8.00	
MT040-03	0.040	0.338	3	270	1.52	1.250	0.202	0.560	11.75	1.42
MT040-04		0.506	2	180		2.000	0.342	0.280	5.00	



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Stock Torsion Springs

Stock Number	Music Wire									Stainless
	Wire	Outside	End Pos	Degrees	Torque	Leg	Mandrel	Axial	Total	Torque
	Diameter	Diameter	Fig #	Deflection	In-Lbs	Length	Size	Space	Coils	In-Lbs
MT040-05		0.491	3	270		2.000	0.327	0.400	7.75	
MT040-06		0.484	4	360		2.000	0.327	0.520	10.50	
MT045-01		0.360	1	90		1.250	0.217	0.270	4.25	
MT045-02		0.379	2	180		1.250	0.233	0.449	8.00	
MT045-03	0.045	0.386	3	270	2.13	1.250	0.250	0.629	11.75	1.99
MT045-04		0.580	2	180		2.000	0.390	0.314	5.00	
MT045-05		0.563	3	270		2.000	0.375	0.449	7.75	
MT045-06		0.554	4	360		2.000	0.375	0.584	10.50	
MT048-01		0.387	1	90		1.250	0.233	0.288	4.25	
MT048-02		0.408	2	180		1.250	0.250	0.480	8.00	
MT048-03	0.048	0.416	3	270	2.56	1.250	0.265	0.672	11.75	2.39
MT048-04		0.624	2	180		2.000	0.420	0.336	5.00	
MT048-05		0.606	3	270		2.000	0.405	0.480	7.75	
MT048-06		0.597	4	360		2.000	0.405	0.624	10.50	
MT051-01		0.415	1	90		2.000	0.265	0.305	4.25	
MT051-02		0.437	2	180		2.000	0.280	0.510	8.00	
MT051-03	0.051	0.446	3	270	3.04	2.000	0.280	0.714	11.75	2.84
MT051-04		0.566	2	180		2.000	0.375	0.408	6.00	
MT051-05		0.581	3	270		2.000	0.390	0.560	8.75	
MT051-06		0.640	4	360		2.000	0.437	0.663	10.50	
MT054-01		0.439	1	90		2.000	0.280	0.324	4.25	
MT054-02		0.463	2	180		2.000	0.295	0.540	8.00	
MT054-03	0.054	0.472	3	270	3.60	2.000	0.295	0.756	11.75	3.36
MT054-04		0.600	2	180		2.000	0.405	0.432	6.00	
MT054-05		0.615	3	270		2.000	0.405	0.594	8.75	
MT054-06		0.624	4	360		2.000	0.405	0.770	11.50	
MT059-01		0.490	1	90		2.000	0.312	0.354	4.25	
MT059-02		0.517	2	180		2.000	0.327	0.590	8.00	
MT059-03	0.059	0.526	3	270	4.60	2.000	0.342	0.826	11.75	4.29
MT059-04		0.669	2	180		2.000	0.452	0.472	6.00	
MT059-05		0.687	3	270		2.000	0.467	0.648	8.75	
MT059-06		0.696	4	360		2.000	0.467	0.826	11.50	
MT063-01		0.528	1	90		2.000	0.327	0.378	4.25	
MT063-02		0.557	2	180		2.000	0.359	0.630	8.00	
MT063-03	0.063	0.567	3	270	5.54	2.000	0.359	0.882	11.75	5.17
MT063-04		0.721	2	180		2.000	0.484	0.504	6.00	
MT063-05		0.740	3	270		2.000	0.500	0.693	8.75	
MT063-06		0.750	4	360		2.000	0.514	0.882	11.50	
MT070-01		0.595	1	90		2.000	0.375	0.420	4.25	
MT070-02		0.628	2	180		2.000	0.405	0.699	8.00	
MT070-03	0.070	0.640	3	270	7.47	2.000	0.420	0.979	11.75	6.97
MT070-04		0.814	2	180		2.000	0.546	0.560	6.00	
MT070-05		0.835	3	270		2.000	0.561	0.770	8.75	
MT070-06		0.846	4	360		2.000	0.577	0.979	11.50	



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Stock Torsion Springs

Stock Number	Music Wire									Stainless
	Wire	Outside	End Pos	Degrees	Torque	Leg	Mandrel	Axial	Total	Torque
	Diameter	Diameter	Fig #	Deflection	In-Lbs	Length	Size	Space	Coils	In-Lbs
MT075-01		0.640	1	90		2.000	0.405	0.450	4.25	
MT075-02		0.675	2	180		2.000	0.437	0.750	8.00	
MT075-03	0.075	0.688	3	270	9.15	2.000	0.452	1.050	11.75	8.54
MT075-04		0.761	2	180		2.000	0.500	0.675	7.00	
MT075-05		0.813	3	270		2.000	0.546	0.900	9.75	
MT075-06		0.843	4	360		2.000	0.561	1.125	12.50	
MT078-01		0.671	1	90		2.000	0.437	0.467	4.25	
MT078-02		0.709	2	180		2.000	0.452	0.780	8.00	
MT078-03	0.078	0.722	3	270	10.2	2.000	0.467	1.092	11.75	9.5
MT078-04		0.799	2	180		2.000	0.530	0.702	7.00	
MT078-05		0.854	3	270		2.000	0.577	0.936	9.75	
MT078-06		0.885	4	360		2.000	0.593	1.169	12.50	
MT085-01		0.743	1	90		2.500	0.484	0.510	4.25	
MT085-02		0.784	2	180		2.500	0.514	0.850	8.00	
MT085-03	0.085	0.799	3	270	13	2.500	0.530	1.190	11.75	12.1
MT085-04		1.018	2	180		2.500	0.702	0.680	6.00	
MT085-05		1.044	3	270		2.500	0.718	0.935	8.75	
MT085-06		1.058	4	360		2.500	0.733	1.190	11.50	
MT095-01		0.844	1	90		2.500	0.546	0.570	4.25	
MT095-02		0.891	2	180		2.500	0.593	0.950	8.00	
MT095-03	0.095	0.908	3	270	17.8	2.500	0.593	1.330	11.75	16.6
MT095-04		1.156	2	180		2.500	0.796	0.760	6.00	
MT095-05		1.187	3	270		2.500	0.811	1.044	8.75	
MT095-06		1.203	4	360		2.500	0.827	1.330	11.50	
MT105-01		0.946	1	90		3.000	0.577	0.656	4.25	
MT105-02		0.998	2	180		3.000	0.655	1.049	8.00	
MT105-03	0.105	1.017	3	270	23.6	3.000	0.671	1.470	11.75	22.1
MT105-04		1.295	2	180		3.000	0.889	0.840	6.00	
MT105-05		1.329	3	270		3.000	0.921	1.155	8.75	
MT105-06		1.347	4	360		3.000	0.936	1.470	11.50	
MT115-01		1.049	1	90		3.000	0.639	0.719	4.25	
MT115-02		1.108	2	180		3.000	0.733	1.149	8.00	
MT115-03	0.115	1.129	3	270	30.6	3.000	0.750	1.609	11.75	28.6
MT115-04		1.438	2	180		3.000	1.000	0.920	6.00	
MT115-05		1.476	3	270		3.000	1.030	1.265	8.75	
MT115-06		1.496	4	360		3.000	1.046	1.609	11.50	
MT125-01		0.963	1	90		3.000	0.608	0.875	5.25	
MT125-02		1.005	2	180		3.000	0.639	1.500	10.00	
MT125-03	0.125	1.085	3	270	38.6	3.000	0.702	2.000	13.75	36
MT125-04		1.225	2	180		3.000	0.811	1.250	8.00	
MT125-05		1.352	3	270		3.000	0.921	1.625	10.75	
MT125-06		1.428	4	360		3.000	0.983	2.000	13.50	
MT135-01		1.057	1	90		3.000	0.671	0.945	5.25	



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Stock Torsion Springs

Stock Number	Music Wire									Stainless
	Wire	Outside	End Pos	Degrees	Torque	Leg	Mandrel	Axial	Total	Torque
	Diameter	Diameter	Fig #	Deflection	In-Lbs	Length	Size	Space	Coils	In-Lbs
MT135-02		1.104	2	180		3.000	0.702	1.620	10.00	
MT135-03	0.135	1.192	3	270	47.6	3.000	0.780	2.160	13.75	44.4
MT135-04		1.346	2	180		3.000	0.905	1.350	8.00	
MT135-05		1.487	3	270		3.000	1.015	1.754	10.75	
MT135-06		1.570	4	360		3.000	1.078	2.160	13.50	

Reference Tables

Common Spring Material Properties					
Material	ASTM Designation	Modulus of Rigidity(G) psi	Youngs Modulus(E) psi	Density lb/in ³	Maximum Temp. F
Inconel X750	B637	11500000	31000000	0.298	1100
Beryllium Copper	B197	7000000	18500000	0.298	400
Brass	B134	5000000	16000000	0.308	200
Chrome Silicone	A231	11500000	30000000	0.284	475
Chrome Vanadium	A232	11500000	30000000	0.284	425
Hastelloy C	B574	10000000	29800000	.321	750
Hard Drawn	A227/A764	11500000	30000000	0.284	250
Music Wire	A228	11500000	30000000	0.284	250
Oil Temper MB	A229	11500000	30000000	0.284	300
Phosphor Bronze	B159	6250000	15000000	0.32	200
Stainless (316)	A313	10000000	28000000	0.286	600
Stainless (17-7PH)	A313	11000000	29500000	0.282	700
Stainless (302)	A313	10000000	28000000	0.286	600

Conversions	
Length	1 in = 25.4 mm 1 ft = 304.8mm
Area	1 in ² = 645.2 mm ²
Volume	1 in ³ = 16387 mm ³
Spring Rate	1 lb/in = .1751 N/mm
torque	1lb-in = 112.9 N-mm 1lt-ft = 1355 N-mm
Stress	1 psi = .006895 Mpa
Temperature	C = (F-32) / 1.8 F= 1.8*C +32
work	1ft-lb = 1.365Joule
Mass	1lb = .4536kg
weight	1lb = 4.448 N



Reference Tables

Material Minimum Ultimate Tensile Strengths(UTS)

wire diamter	Music Wire	Hard Drawn	Oil Temper	17-7 Stainless	302 Stainless	Phosphorus Bronze	Beryllium Coper	Chrome Silicon	Chrome Vanadium	316 Stainless	Brass
0.006	399	307	315	345	325	145	180	300	300	245	120
0.007	399	307	315	345	325	145	180	300	300	245	120
0.008	399	307	315	345	325	145	180	300	300	245	120
0.009	393	305	313	345	325	145	180	300	300	245	120
0.010	387	303	311	345	320	145	180	300	300	245	120
0.011	382	301	309	340	318	145	180	300	300	240	120
0.012	377	299	307	340	316	145	180	300	300	240	120
0.013	373	297	305	340	314	145	180	300	300	240	120
0.014	369	295	303	340	312	145	180	300	300	240	120
0.015	365	293	301	335	310	145	180	300	300	240	120
0.016	362	291	300	335	308	145	180	300	300	235	120
0.017	362	289	298	335	306	145	180	300	300	235	120
0.018	356	289	297	335	304	145	180	300	300	235	120
0.019	356	285	295	335	302	145	180	300	300	235	120
0.020	350	283	293	335	300	145	180	300	300	235	120
0.021	350	281	293	330	298	145	180	300	300	235	120
0.022	345	280	293	330	296	145	180	300	300	235	120
0.023	345	278	289	330	294	145	180	300	300	235	120
0.024	341	277	289	330	292	145	180	300	300	235	120
0.025	341	275	286	330	290	145	180	300	300	235	120
0.026	337	274	286	325	289	135	180	300	300	235	120
0.027	337	272	286	325	287	135	180	300	300	235	120
0.028	333	271	283	325	286	135	180	300	300	235	120
0.029	333	267	283	325	284	135	180	300	300	235	120
0.030	330	266	283	325	282	135	180	300	300	235	120
0.031	330	266	280	320	280	135	180	300	300	235	120
0.032	327	265	280	320	277	135	180	300	290	235	120
0.033	327	264	280	320	276	135	180	300	290	235	120
0.034	324	262	280	320	275	135	180	300	290	235	120
0.035	324	261	274	320	274	135	180	300	290	235	120
0.036	321	260	274	320	273	135	180	300	290	235	120
0.037	321	258	274	320	272	135	180	300	290	235	120
0.038	318	257	274	320	271	135	180	300	290	235	120
0.039	318	256	274	320	270	135	180	300	290	235	120
0.040	315	255	274	320	270	135	180	300	290	235	120
0.041	315	255	266	320	269	135	170	298	280	235	120
0.042	313	254	266	310	268	135	170	298	280	225	120
0.043	313	252	266	310	267	135	170	298	280	225	120



Reference Tables

Material Minimum Ultimate Tensile Strengths(UTS)

wire diamter	Music Wire	Hard Drawn	Oil Temper	17-7 Stainless	302 Stainless	Phosphorus Bronze	Beryllium Coper	Chrome Silicon	Chrome Vanadium	316 Stainless	Brass
0.044	313	251	266	310	266	135	170	298	280	225	120
0.045	309	250	266	310	264	135	170	298	280	225	120
0.046	309	249	266	310	263	135	170	298	280	225	120
0.047	309	248	259	310	262	135	170	298	280	225	120
0.048	306	247	259	310	262	135	170	298	280	225	120
0.049	306	246	259	310	261	135	170	298	280	225	120
0.050	306	245	259	310	261	135	170	298	280	225	120
0.051	303	244	259	310	261	135	170	298	280	225	120
0.052	303	244	259	305	260	135	170	298	280	225	120
0.053	303	243	259	305	260	135	170	298	270	225	120
0.054	303	243	253	305	260	135	170	292	270	225	120
0.055	300	242	253	305	260	135	170	292	270	220	120
0.056	300	241	253	305	259	135	170	292	270	220	120
0.057	300	240	253	305	258	135	170	292	270	220	120
0.058	300	240	253	305	258	135	170	292	270	220	120
0.059	296	239	253	305	257	135	170	292	270	220	120
0.060	296	238	253	305	256	135	170	292	270	220	120
0.061	296	237	253	305	255	135	170	292	270	220	120
0.062	296	237	247	297	255	135	170	290	265	220	120
0.063	293	236	247	297	254	130	170	290	265	215	120
0.064	293	235	247	297	254	130	170	290	265	215	120
0.065	293	235	247	297	254	130	170	290	265	215	120
0.066	290	235	247	297	250	130	170	290	265	215	120
0.067	290	234	247	297	250	130	170	290	265	215	120
0.069	290	233	247	297	250	130	170	290	265	215	120
0.070	289	233	247	297	250	130	170	290	265	215	120
0.071	288	233	247	297	250	130	170	290	265	215	120
0.072	287	232	241	292	250	130	170	290	265	215	120
0.074	287	231	241	292	250	130	170	290	265	210	120
0.075	287	231	241	292	245	130	170	290	265	210	120
0.076	284	230	241	292	245	130	170	290	265	210	120
0.078	284	229	241	292	245	130	170	290	265	210	120
0.079	284	229	241	292	245	130	170	290	265	210	120
0.080	282	227	235	292	245	130	170	285	255	210	120
0.083	282	227	235	292	245	130	170	285	255	205	120
0.084	279	227	235	292	245	130	170	285	255	205	120
0.085	279	225	235	292	245	130	170	285	255	205	120
0.089	279	225	235	292	245	130	170	285	255	205	120
0.090	276	222	235	292	245	130	170	285	255	205	120



Reference Tables

Material Minimum Ultimate Tensile Strengths(UTS)

wire diamter	Music Wire	Hard Drawn	Oil Temper	17-7 Stainless	302 Stainless	Phosphorus Bronze	Beryllium Coper	Chrome Silicon	Chrome Vanadium	316 Stainless	Brass
0.091	276	225	230	292	245	130	170	285	255	205	120
0.092	276	220	230	279	240	130	170	280	255	205	120
0.093	276	220	230	279	240	130	170	280	255	200	120
0.094	274	220	230	279	240	130	170	280	255	200	120
0.094	274	219	230	279	240	130	170	280	255	200	120
0.099	274	219	230	279	240	130	170	280	255	200	120
0.100	271	219	230	279	240	130	170	280	255	200	120
0.101	271	219	230	279	240	130	170	280	255	200	120
0.102	270	219	230	279	240	130	170	280	255	200	120
0.105	270	216	225	274	232	130	170	280	245	200	120
0.106	268	216	225	274	232	130	170	280	245	195	120
0.109	268	216	225	274	232	130	170	280	245	195	120
0.110	267	216	225	274	232	130	170	280	245	195	120
0.111	267	216	225	274	232	130	170	280	245	195	120
0.112	266	216	225	274	232	130	170	280	245	195	120
0.119	266	216	220	274	232	130	170	280	245	195	120
0.120	263	210	220	272	225	130	170	275	245	195	120
0.123	263	210	220	272	225	130	170	275	245	185	120
0.124	261	210	220	272	225	130	170	275	245	185	120
0.129	261	210	220	272	225	130	170	275	245	185	120
0.130	258	210	220	260	225	130	170	275	245	185	120
0.135	258	206	215	260	225	130	170	270	235	185	120
0.139	258	206	215	260	225	130	170	270	235	185	120
0.140	256	206	215	260	225	130	170	270	235	185	120
0.144	256	206	215	260	225	130	170	270	235	185	120
0.145	254	206	210	260	225	130	170	270	235	185	120
0.148	254	203	210	256	210	130	170	270	235	185	120
0.149	253	203	210	256	210	130	170	270	235		120
0.150	253	203	210	256	210	130	170	270	235		120
0.151	251	203	210	256	210	130	170	270	235		120
0.160	251	203	210	256	210	130	170	270	235		120
0.161	249	203	210	256	210	130	170	270	235		120
0.162	249	200	205	256	205	130	170	265	225		120
0.177	245	195	200	254	195	130	170	260	225		120
0.192	241	162	195	252	195	130	170	260	220		120
0.207	238	190	190	252	185	130	170	260	220		120
0.225	235	186	188	248	180	130	170	255	220		120
0.250	230	182	185	248	175	130	170	250	210		120
0.313	230	174	183	248	140	130	170	245	203		120
0.375	167	180	180	242	140	130	170	240	200		120

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